

**PREFERRED ALTERNATIVE RECOMMENDATION
FOR THE
COLLEGE AVENUE SAFETY ENHANCEMENT (CASE) PROJECT
COLUMBIA, MISSOURI**



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April 4, 2014

Mr. Cliff Jarvis, P.E.
Columbia Public Works Department
PO Box 6015
Columbia, MO 65205

RE: Preferred Alternative Recommendation
College Avenue Safety Enhancement
STP - 2100 (522)
Columbia, Missouri

Dear Mr. Jarvis:

Please find the attached Preferred Alternative Recommendation for the referenced project. This report includes the project goals, comments received at two interested parties meetings, design team analysis, and recommendations.

To date we have considered multiple possible alternatives for the project and developed schematic designs for eight alternatives. The alternatives were developed using feedback received from the first interested parties public meeting and from targeted outreach prior to the first interested parties meeting. The alternatives were evaluated based on the criteria expressed in the project goals and by the public comments. The eight alternatives were presented to the public at the second interested parties meeting, with the two highest scoring alternatives being further developed with full color renderings. Based on input from the public, a preferred alternative recommendation has been developed. Final approval of the preferred alternative will be requested from the City Council following a public hearing.

Please contact us if you have questions or need additional information on this report.

Sincerely,



Benjamin A. Ross, P.E., PTOE



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**PREFERRED ALTERNATIVE RECOMMENDATION
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COLLEGE AVENUE SAFETY ENHANCEMENT (CASE) PROJECT
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EXECUTIVE SUMMARY

For many years, College Avenue (Missouri State Route 763), between University Avenue on the north and Rollins Street on the south, has experienced very large volumes of pedestrians crossing mid-block. The majority of these pedestrians are students from the University of Missouri living or parking in the East Campus neighborhood. This situation has been widely recognized as unsafe for both pedestrians and drivers.

In 2009, the University of Missouri funded the *College Avenue Pedestrian Study* which was prepared by Crawford, Bunte, Brammeier Traffic and Transportation Engineers. The study included detailed pedestrian and vehicular traffic counts and vehicle traffic modeling to determine the available gaps in traffic to allow pedestrian crossings between University Avenue and Rollins Street. The study concluded that the “...*current pedestrian environment along College Avenue is unsafe.*” To improve safety for pedestrians and motorists, the study recommended two signalized mid-block crosswalks with a pedestrian barrier to channelize pedestrians to the crosswalks. A drawing showing the study area and its recommendation is shown on page 5. The study recommended High Intensity Activated Crosswalk, or HAWK, traffic signals at the crosswalks. The pedestrian barrier would block left turn access from College Avenue into and out of the East Campus neighborhood. The University of Missouri made these proposed safety improvements a major transportation priority.

Using the 2009 pedestrian study recommendations as a basis, a partnership was formed between the City of Columbia and the University of Missouri to apply for Missouri Department of Transportation (MoDOT) grant funding to complete the recommended improvements. Grant funding was awarded in 2013. The City of Columbia is the lead agency for construction of the proposed improvements. The City of Columbia hired a design team lead by Engineering Surveys and Services in September 2013 to conduct a public engagement process and to design the proposed improvements. Engineering Surveys and Services teamed with EFK Moen for traffic engineering and structural engineering and Landworks Studio for landscape architecture services. The design team together with representatives from the City of Columbia Public Works Department, the University of Missouri Campus Facilities Department, and MoDOT, comprise the project team.

The public engagement process consisted of: collecting available data, including updated vehicle traffic counts along College Avenue and in the East Campus neighborhood; targeted outreach to interested parties including police, fire and emergency medical services, the East Campus Neighborhood Association, and selected University of Missouri planning committees; and two interested parties public meetings. The data collected includes:

Affected Populations in the Project Area:

- 19,000 vehicles per average weekday drive College Avenue
- 2,500 mid-block pedestrian crossing per average weekday
- 2,455 vehicles per hour on College Avenue during the peak hour
- 460 pedestrians crossing mid-block during the peak hour
- 140 East Campus Neighborhood displaced left turns during the peak hour

MoDOT Approval and Safety Issues

The Missouri Department of Transportation grant that will fund this project is for pedestrian safety improvements. Because College Avenue is part of the state highway system, MoDOT must approve any work that takes place within the right-of-way. MoDOT wrote a letter to the City of Columbia to clarify the safety improvements that MoDOT will accept as part of this project. MoDOT approves of Alternates A and B, which are described below. MoDOT believes “allowing left turns onto or off of College Avenue would greatly reduce pedestrian safety.” A copy of this letter is included in Appendix 1.

Pedestrian Accident Rate is Increasing

Data from the University of Missouri Police Department and Columbia Police Department indicate that from June of 2005 to September of 2009, there were 11 reported pedestrian crashes in the study area. From October 2009 to June 2012, there were 9 reported pedestrian crashes, all with injuries, between University and Rollins. This represents a 29 percent increase in the rate of pedestrian crashes. Most of the accidents occurred at the signalized intersections, suggesting that high concentrations of pedestrians and turning vehicles at intersections is an unsafe condition. Mid-block crosswalks that have no conflicts with turning traffic would be safer.

A participant at the interested parties meetings reported that he had been hit by turning vehicles at University and College twice, but did not report the incidents to the police. Many other unreported non-injury crashes and near misses likely occur.

Pedestrian Safety Research

The Federal Highway Administration has conducted research (see Appendix 2) that shows mid-block locations similar to College Avenue between University and Rollins account for more than 70 percent of pedestrian fatalities due to higher vehicle travel speeds mid-block. More than 80 percent of pedestrians die when hit by vehicles traveling at 40 mph or higher, while less than 10 percent die when hit at 20 mph. The Federal Highway Administration’s research also shows the installation of HAWK pedestrian traffic signals provided the following safety benefits:

- Up to 69 percent reduction in pedestrian crashes; and
- Up to 29 percent reduction in total roadway crashes

Concerns Expressed by the Public

The following concerns have been identified through the targeted outreach process and interested parties meetings:

- Safety of pedestrians
- Appearance of proposed improvements
- Loss of left turn access
- How lost left turns will be accommodated
- Changing pedestrian behavior
- Landscape/trees vs. hardscape

Alternatives

After listening to the public's concerns regarding the project, the design team developed eight alternatives. The alternatives included options with varying levels of appearance and cost, options with varying levels of left turn access to the East Campus neighborhood; and alternatives with varying degrees of landscape and hardscape. The alternatives were evaluated based on screening criteria derived from the MoDOT grant application requirements and the concerns expressed in public outreach efforts. The following alternatives were presented at the second interested parties meeting on February 25, 2014 (All alternatives include two HAWK signals at mid-block crosswalks unless noted otherwise):

| Alternative | Description | Score |
|--------------------|---|--------------|
| A | Center-Lane Median with "Corral Rail" Barrier and short fence with stone columns, No left turns (Shown on the Cover of this report) | 41 |
| B | Center-Lane Median with Metal Fence & Stone Column vertical element, No Left Turns | 41 |
| C | Center-Lane Median with Concrete "Jersey Barrier" vertical element, No Left Turns | 38 |
| D | HAWK Signals and Mid-Block Cross Walks Only, Left Turns allowed | 33 |
| E | Raised Island hardscape, No Vertical Element, Restricted Left Turns | 31 |
| F | Partial Raised Island Hardscape, No Vertical Element, Left Turns Allowed | 31 |
| G | 30-Inch High Raised Median with landscaping (2009 Study recommendation), No Left turns | 30 |
| H | Full traffic signal at Wilson Avenue with median and vertical element to north and south; No mid-block crossings or HAWKs | 25 |

Preferred Alternative Recommendation

Based on the results of the 2009 pedestrian study and data gathered during the public outreach process, we recommend constructing Alternative A (shown on the cover and in Appendix 9), a median with a low concrete wall, or corral rail, with stone finish and with an iron fence on top of the wall that will channelize pedestrians to two mid-block crosswalks with HAWK signals. This option will provide the biggest safety improvement for the most vulnerable population group, pedestrians. The proposed wall would include aesthetic features to complement the corridor. This option would restrict left turn access along College Avenue. The displaced left turns into and out of the East Campus neighborhood would need to use William Street, a neighborhood collector, to access Rollins Street or University Avenue to make a left turn. Future roadway improvements would need to be constructed to mitigate the displaced left turns.

This project is estimated to cost \$750,000, including a 15 percent contingency. This project cost exceeds the \$670,000 grant funds available for construction by approximately \$80,000. If funds are not available we would recommend constructing Alternative B, a raised median with iron fence. This alternative is estimated to cost \$490,000. We recommend constructing the westbound left turn lane at Rollins Street at the same time as the College Avenue median or as soon thereafter as possible. See the Future Projects section below for additional details.

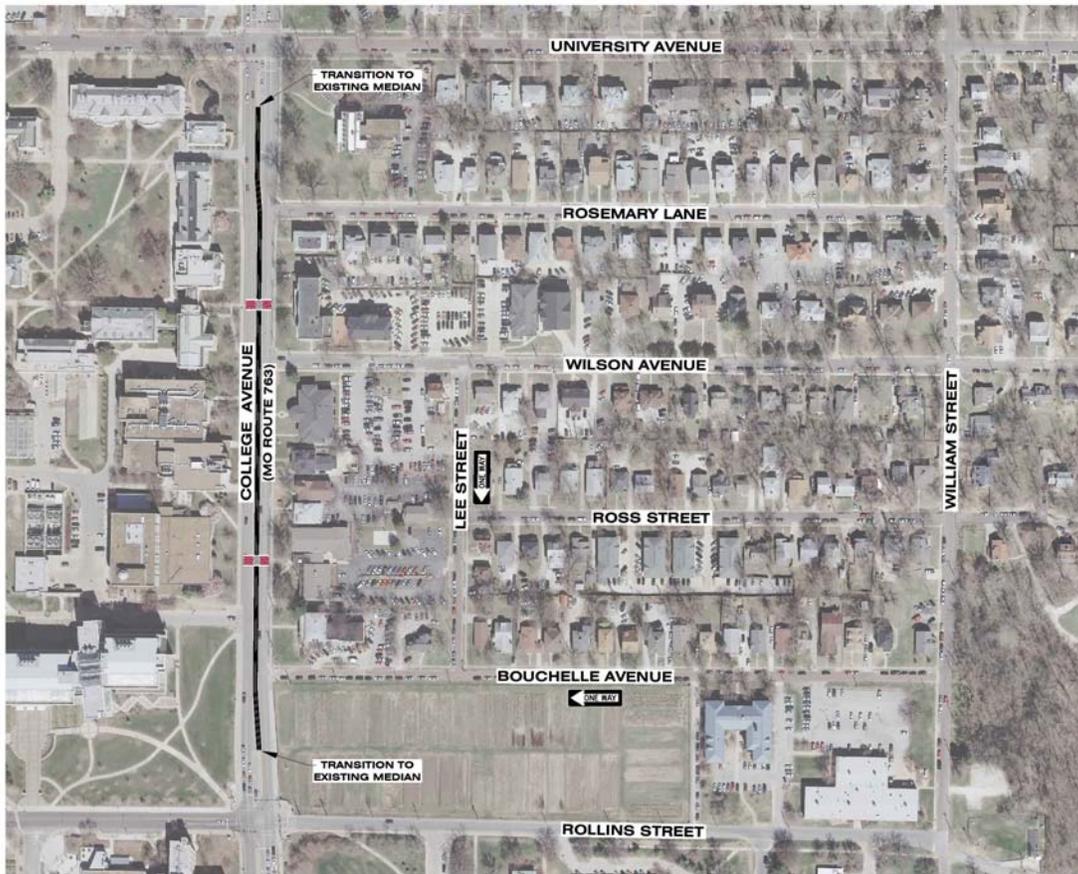
Alternatives A and B are very similar in most respects. The vertical element, whether it is the concrete corral rail with form liners to give it a stone appearance in Alternative A or metal fence in Alternative B, could be bid as “add alternates” to the construction contract to keep the project within budget.

Future Projects to Mitigate Lost Left Turns

The Missouri Department of Transportation has identified the need to prohibit left turns onto and off of College Avenue as a major pedestrian safety goal of the project. The following future improvements have been identified to reduce the impact of displaced left turning traffic:

- Add a westbound left turn lane at the College Avenue and Rollins Street intersection. This project is estimated to cost \$270,000.
- Intersection improvements at College Avenue and Ashland Road to allow U-turns. This project is estimated to cost \$180,000.
- Several additional recommendations are included in this report regarding limiting parking on William Street south of Ross Street and changing the side of William Street on which parking is allowed. These changes will improve the ability of drivers pulling out of Rosemary Lane, Wilson Avenue, and Ross Street to see oncoming traffic. The proposed parking restriction south of Ross Street will provide a wider usable roadway for the displaced left turn traffic moving to the south along William Street. These are relatively low cost recommendations involving signing changes only.

PROJECT AREA & 2009 PEDESTRIAN STUDY RECOMMENDATION



College Avenue Safety Enhancement (CASE) Project
Making the CASE for a Safer College Avenue



Project Location Map and 2009 Study Recommendation
This board was displayed at both interested parties meetings.

PURPOSE AND NEED

The purpose of this project is to improve safety for pedestrians crossing College Avenue mid-block between University Avenue on the north and Rollins Street on the south.

The need for this project has long been recognized by the City of Columbia and University of Missouri. The University of Missouri commissioned the *College Avenue Pedestrian Study* in 2009, by Crawford, Bunte, Brammeier, to quantify the pedestrian crossing needs and to recommend “the most effective means of facilitating safer pedestrian crossing...” This study found that “*the current pedestrian environment along College Avenue is unsafe.*” Two mid-block crosswalks with a median barrier to channel pedestrians to the crosswalks were recommended. High Intensity Activated Crosswalks, or HAWK, traffic signals are proposed to increase pedestrian safety by stopping traffic at the crosswalks. Pictures of HAWK signals and an explanation of their function are found in Appendix 2 of this report.

The need for this project is also shown by the number of pedestrian related accidents. The pedestrian injury accident rate has been increasing in recent years as the University and City populations increase. From June of 2005 to September of 2009, there were 11 reported pedestrian crashes in the study area. From October 2009 to June 2012, there were 9 reported pedestrian crashes, all with injuries, between University and Rollins. This represents a 29 percent increase in the rate of pedestrian crashes. Most of the accidents occurred at the signalized intersections, suggesting that high concentrations of pedestrians and turning vehicles at intersections is an unsafe condition. Mid-block crosswalks that have no conflicts with turning traffic would be safer.

PROJECT LOCATION

The project limits are along College Avenue (Missouri Route 763) between a point approximately 250 feet south of the centerline of University Avenue southward to a point approximately 155 feet north of Rollins Street. College Avenue is a major north-south arterial road serving the City of Columbia. This roadway is located along the eastern border of the University of Missouri campus. Several University of Missouri fraternity houses, a University-owned bed and breakfast, the Campus Christian House complex, and Sanborn Field, a National Historic Site bordering College Avenue to the east. The roadway is part of the Missouri Department of Transportation (MoDOT) highway system. MoDOT owns the roadway and has jurisdiction over all projects affecting its right-of-way.

PUBLIC ENGAGEMENT PROCESS – PHASE 1

The public engagement process included targeted outreach to interested parties and two public interested parties meetings. A summary of each meeting is included below.

Targeted Outreach Meetings

East Campus Neighborhood Association – A meeting was held on October 18, 2013, at the Gathering Place Bed and Breakfast with members of the East Campus Neighborhood Association (ECNA). The purpose of this meeting was to inform them of the project, to invite them to join in the process that will be used to develop construction plans, and to ask them for feedback. The ECNA's concerns about the project included (not necessarily in order of highest importance):

1. Mitigating displaced left turns
2. Appearance of the proposed improvements
3. Safety within the ECN with additional traffic due to displaced left turns
4. Safety of pedestrians on College Avenue
5. Direction of one-way streets
6. Cut-through traffic from Broadway along Ann Street to University Avenue
7. Parking within the ECN

Detailed meeting notes from the October 18, 2013, meeting are included in Appendix 3.1.

University Police and Emergency Medical Services – A meeting was held at the University Campus Facilities office on October 22, 2013, with representatives of the University Police Department and University Hospital Emergency Medical Services. Issues discussed included:

- U-turns by smaller emergency vehicles such as police cars and ambulances will be possible through the crosswalks.
- Firefighters would likely close the west side of College Avenue to fight a fire on campus.
- Responsibility for snow removal from the crosswalks will need to be determined
- Jaywalking enforcement

Overall, the University Police and EMS community support the project because they believe it will make the corridor safer for both pedestrians and motorists. They are not concerned about the loss of left turn access causing longer emergency response times.

University of Missouri Campus Planning Committees – A joint meeting hosted by the Campus Planning Committee was held at the University Campus Facilities office on October 23, 2013. The meeting was attended by members of the Campus Planning Committee, Campus Safety Committee, and Campus Parking & Transportation Committee. The purpose of this meeting was for the design team to receive input from the Campus. Members of the East Campus

Neighborhood Association attended as observers. A presentation by the University's traffic engineer Julie Nolfo, PE, PTOE was given. See the attached presentation slides in Appendix 3.2 of this report.

During the meeting, one participant reported that he had been hit by turning vehicles at University and College twice, but did not report the incidents to the police. Many other unreported non-injury crashes and near misses likely occur.

City of Columbia Police and Fire Departments and Boone Hospital Emergency Services – A meeting with the City police, fire and EMS community took place at City Hall on November 13, 2013. Members of the East Campus Neighborhood Association attended as observers. Issues discussed included:

- Design the crosswalks to allow large fire trucks to drive diagonally through them, thus allowing them to drive the wrong way on College Avenue in an emergency.
- U-Turns by police cars and ambulances will be possible through the crosswalks
- Enforcement needs to be part of the solution
- Response times by emergency responders

The emergency responders present at the meeting were generally in favor of the project because they believe it will help prevent accidents. The locations of Columbia Fire Stations and the University Hospital and Boone Hospital will not overly impact the response times to the project area.

Meeting Announcement

A hardcopy meeting announcement was sent on November 4, 2013, to over 1,000 addresses in the East Campus neighborhood. The meeting announcements were sent to both residents and property owners if the Boone County Assessor's office listed a property owner with a different address than the property street address. A copy of the meeting announcement is included in Appendix 4 of this report.

The City of Columbia issued a press release regarding the project and the first interested parties meeting. Details about the project and meeting were also placed on a project webpage linked to the City Public Works website.

Interested Parties Meeting #1

The first interested parties meeting was held at City Hall on November 19, 2013. The meeting was an open house format with the public invited to view display boards and speak with members of the design team. Approximately 50 members of the public attended and two local television stations provided coverage. See Appendix 4 for copies of the meeting boards, comments and a summary of the public comments.

As a result of the public comments received at the first Interested Parties (IP) Meeting, a number of issues were brought to the design team’s attention for consideration during the preliminary design phase. These issues included:

1. *Left turn access into East Campus Neighborhood:* Evaluate an alternative that addresses the concern with loss of left turn movements
 - 1.1. Options included allowing some left turn access, or U-turn options that gives vehicles the option of accessing the ECN more easily when southbound on College or needing to leave the ECN to go southbound on College.
 - 1.2. Evaluate traffic impacts expected in the ECN and develop recommendations for ECN improvements that fall outside the scope of this project.
 - 1.3. Address the challenges to proper design and use of the mid-block crossings associated with allowing a left turn option.

2. *Barrier will not be attractive:* This rather broad view was held by many in the public, and is partly the result of flexible delineators at College & Windsor, and Stadium near I-70; and the concrete barrier on Providence south of Stadium, etc.
 - 2.1. Any structural vertical element will have to be presented to the public in such a way as to address these very real concerns.
 - 2.2. Features of each alternative should show how it is “context-sensitive”; that it fits in the area bordering the University and East Campus Neighborhood.
 - 2.3. Landscape options were evaluated, including how maintenance could be performed along a busy roadway with narrow lanes. Safety of maintenance workers, whether University employees, City employees or members of the public was a major concern for MoDOT and the entire design team.

3. *Behavior change for pedestrians crossing College Avenue:* To offer an alternative that does not provide a vertical barrier would allow students to continue crossing along the entire corridor.
 - 3.1. Crossing would be discouraged outside the crosswalks with a variety of means – signage, public education, law enforcement, etc.
 - 3.2. This does address comments received about deferring full-length median infrastructure and only building crosswalks with protected center-lane havens and pedestrian signals.
 - 3.3. Enforcement action on pedestrians who cross outside of the designated crosswalks is a matter for both City and University officials and their respective law enforcement departments to address.

Based on input received at the first interested parties meeting, the following criteria were identified to evaluate proposed alternatives:

- | | |
|--------------------------------|---|
| 1. Pedestrian safety | 7. Corridor vehicle travel time |
| 2. Change pedestrian behavior | 8. Emergency vehicle access |
| 3. Left turn access | 9. Meets grant application requirements |
| 4. Total project cost | 10. Regional traffic impact |
| 5. Appearance matches corridor | |
| 6. Ease of maintenance | |

DEVELOPMENT OF ALTERNATIVES

Public input received during the first interested parties meeting and from the targeted outreach efforts was used as guidance to develop a list of project alternatives, prepare screening criteria used to evaluate characteristics of the alternatives, and finally to propose various alternatives for consideration by the design team which were further developed into the alternatives presented at the second interested parties meeting.

The following table lists the eight alternatives that were developed for presentation at the second interested parties meeting. Planning level Opinions of Probable Construction Cost are included in Appendix 5 for each alternative. Schematic drawings of these alternatives are shown on the boards displayed at the Second Interested Parties meeting. See Appendix 8.

| Alternative | Description | Score | Estimated Cost |
|--------------------|---|--------------|-----------------------|
| A | Center-Lane Median with “Corral Rail” Barrier and short fence, No left turns | 41 | \$750,000 |
| B | Center-Lane Median with Metal Fence & Stone Column vertical element, No Left Turns | 41 | \$485,000 |
| C | Center-Lane Median with Concrete “Jersey Barrier” vertical element, No Left Turns | 38 | \$455,000 |
| D | HAWK Signals and Mid-Block Cross Walks Only, Left Turns allowed | 33 | \$280,000 |
| E | Raised Island hardscape, No Vertical Element, Restricted Left Turns | 31 | \$324,000 |
| F | Partial Raised Island Hardscape, No Vertical Element, Left Turns Allowed | 31 | \$292,000 |
| G | 30-Inch High Raised Median with landscaping (2009 Study recommendation), No Left turns | 30 | \$787,000 |
| H | Full traffic signal at Wilson Avenue with median and vertical element to north and south; No mid-block crossings or HAWKS | 25 | \$1,070,000 |

Alternatives A through G include High Intensity Activated Crosswalk, or HAWK, traffic signals at the proposed crosswalks. These signals will remain dark until activated by a pedestrian wishing to cross College Avenue. When activated, the signal will flash yellow to warn oncoming motorists. The signal then displays steady yellow followed by steady red to stop vehicle traffic. At this point the pedestrian receives a walk indication on the pedestrian crosswalk signal head. After a period of time pedestrians would receive a Do Not Walk indication. A short period of time later, the red traffic signals will begin to flash red. A flashing red light is the same as a stop sign. The first vehicle in line at the crosswalk would then need to yield to any pedestrian in the crosswalk. If no pedestrian are crossing, the driver could then proceed. The HAWK signals will be interconnected with the adjacent traffic signals at University Avenue and Rolling Street to coordinate the traffic flow and maintain two-way progression along College Avenue. An education and enforcement campaign for both drivers

and pedestrians would be needed as part of this project. More information on HAWK signals and how they operate is found in Appendix 2.

Alternatives A, B and C each have a full-corridor median and vertical element to channelize pedestrians; restricted left-turns; and mid-block, signalized crosswalks. Each alternative functions similarly, though there is a significant increase in construction cost between the lowest and highest cost option. Alternatives A & B each have aesthetic features that are “context sensitive” – intended to fit with the corridor, specifically the adjacent campus, which was a comment heard at the first interested parties meeting. With a reinforced concrete wall, Alternate A will require less lifetime maintenance than Alternate B, if or when they are struck by errant vehicles.

Alternatives D and F each allow left-turn access similar to existing conditions with mid-block, signalized crosswalks. These alternatives do not include a vertical element to limit the desired change of pedestrian behavior to use the mid-block, signalized crosswalks. No median haven on Alternate D will allow vehicles wishing to turn left onto Wilson Avenue to access the center-turn lane. Options that allow turning traffic and pedestrians to compete for the same roadway space is a safety concern and does not meet the goals of the project. Both Alternatives D and F can be constructed with lower initial infrastructure cost, less than one-half of the highest cost Alternative A. A partial median in Alternative F would allow some left turns.

Alternatives E and G have similar characteristics of a full-corridor median that restricts left-turns; and mid-block, signalized crosswalks. Alternative E has a full-length center median, eliminating pedestrian conflicts with left-turning vehicles and providing a haven for two-stage pedestrian crossings. There is concern that having no vertical element will limit the desired change of pedestrian behavior to use the mid-block, signalized crosswalks. Alternative G provides a vertical element with landscape opportunities, a comment heard at the first interested parties meeting. This alternative is the most similar to the recommendation from the University of Missouri’s *2009 College Avenue Pedestrian Traffic Study*. Concerns with Alternative G include maintenance issues over the life of the project, structure height may still allow crossings along the corridor, and cost exceeding current funding.

Alternative H provides a full-corridor median and vertical element to channelize pedestrians, restricting left-turns with the exception of a fully-signalized intersection at Wilson Avenue. This would be the only additional pedestrian crosswalk provided in this alternative. This alternative is responsive to concerns about maintaining some left-turn access into the East Campus neighborhood. To provide a vertical element, College Avenue would require widening of 5 to 7 feet, increasing construction cost beyond current funding. Without widening College, vehicles wanting to turn left would block the through-lane of traffic. If a vertical element is not provided, the desired change of pedestrian behavior to use the signalized crosswalk will not take place. Vehicle and pedestrian accidents at existing signalized intersections are already a safety concern, and Alternative H would provide another crossing where pedestrians compete with turning vehicles. Another drawback to this option would be the additional traffic demand on Wilson Avenue.

Traffic Study to Evaluate Displaced Left Turns

Part of the alternative evaluation process involved a traffic study of the existing roadway conditions and the impacts the proposed alternatives would have on College Avenue traffic as well as traffic in the East Campus neighborhood. The University of Missouri provided current traffic counts at the roadway intersections (See Appendix 6). The design team used this data to develop a traffic simulation model to calculate the level of service at various intersections in the project area. The purpose of this model was to determine the impact of the various alternatives on the traffic in the East Campus neighborhood. In particular, the impact of displaced left turns was studied.

The following table shows the results of the traffic study on the overall College Avenue corridor:

CASE Project - Summary of Performance
College Avenue Corridor Study

EFK Moen, LLC
2/7/2014

| SimTraffic Summary Peak Hour | | Existing | | Hawk Signals | (+/-) FROM EXIST. | | Hawk Signals with Rollins Lt Turn Bay Improvements | (+/-) FROM EXIST. | | Full Traffic Signal at Wilson & Vertical Median Element | (+/-) FROM EXIST. | |
|---------------------------------|--------------------------|-----------|-----|--------------|-------------------------|---|---|-------------------------|---|--|-------------------------|---|
| <i>PM PEAK HOUR</i> | | | | | | | | | | | | |
| NB | Corridor Delay (s/veh) | 46.3 | | 62.6 | 16.3 | | 51.0 | 4.7 | | 46.1 | -0.2 | |
| NB | Corridor Travel Time (s) | 165.6 | | 181.8 | 16.2 | | 170.2 | 4.6 | | 165.3 | -0.3 | |
| NB | Arterial Speed (mph) | 25.0 | | 23.0 | -2.0 | | 25.0 | 0.0 | | 25.0 | 0.0 | |
| SB | Corridor Delay (s/veh) | 55.6 | | 71.7 | 16.1 | | 66.4 | 10.8 | | 74.9 | 19.3 | |
| SB | Corridor Travel Time (s) | 162.6 | | 178.8 | 16.2 | | 173.6 | 11.0 | | 182.2 | 19.6 | |
| SB | Arterial Speed (mph) | 23.0 | | 21.0 | -2.0 | | 22.0 | -1.0 | | 21.0 | -2.0 | |
| Node # | Intersection | Delay (s) | LOS | Delay (s) | LOS | | Delay (s) | LOS | | Delay (s) | LOS | |
| 1 | Physics Drive & College | 1.8 | A | 3.3 | 1.5 | A | 3.6 | 1.8 | A | 1.9 | 0.1 | A |
| 2 | Bouchelle & College | 2.7 | A | 2.7 | 0.0 | A | 2.7 | 0.0 | A | 2.7 | 0.0 | A |
| 3 | William & Bouchelle | 4.6 | A | 4.5 | -0.1 | A | 4.5 | -0.1 | A | 4.6 | 0.0 | A |
| 4 | Wilson & College | 2.3 | A | 1.4 | -0.9 | A | 1.7 | -0.6 | A | 7.4 | 5.1 | A |
| 6 | Rosemary & College | 2.5 | A | 2.2 | -0.3 | A | 2.1 | -0.4 | A | 2.2 | -0.3 | A |
| 7 | William & Rosemary | 4.7 | A | 4.8 | 0.1 | A | 4.7 | 0.0 | A | 4.5 | -0.2 | A |
| 8 | Bouchelle & Lee | 3.6 | A | 2.6 | -1.0 | A | 2.3 | -1.3 | A | 3.6 | 0.0 | A |
| 9 | Lee & Wilson | 4.7 | A | 3.0 | -1.7 | A | 3.1 | -1.6 | A | 4.2 | -0.5 | A |
| 10 | Lee & Ross | 3.2 | A | 1.8 | -1.4 | A | 1.7 | -1.5 | A | 3.0 | -0.2 | A |
| 12 | William & Wilson | 3.6 | A | 5.0 | 1.4 | A | 4.9 | 1.3 | A | 5.0 | 1.4 | A |
| 13 | William & Ross | 4.9 | A | 4.5 | -0.4 | A | 4.5 | -0.4 | A | 4.7 | -0.2 | A |
| 181 | University & College | 29.4 | C | 27.0 | -2.4 | C | 28.9 | -0.5 | C | 23.5 | -5.9 | C |
| 182 | Rollins & College | 29.0 | C | 48.9 | 19.9 | D | 29.3 | 0.3 | C | 50.2 | 21.2 | D |
| 915 | William & University | 4.8 | A | 5.1 | 0.3 | A | 5.3 | 0.5 | A | 5.0 | 0.2 | A |
| 917 | William & Rollins | 4.1 | A | 4.0 | -0.1 | A | 4.2 | 0.1 | A | 3.7 | -0.4 | A |

With any of the options that prevent left turn access (HAWK Signal option in the table above), all of the intersections remain at a level of service (LOS) equal to their existing conditions LOS except Rollins and College. This intersection's overall level of service decreases from C to D due to the increased traffic from displaced left turns leaving the East Campus neighborhood to the south.

However, the westbound left and northbound left turning movements at College Avenue and Rollins experience the biggest decrease in level of service. The following table shows the increase in delay per vehicle (seconds):

College Avenue and Rollins Street Intersection Performance

| | Existing Conditions | Loss of College Avenue Left Turn Access | Future Westbound Left Turn Lane at College and Rollins |
|--------------------------------------|---------------------|---|--|
| Westbound Left Turn Delay (seconds) | 73.3 | 136 | 34.3 |
| Westbound Left Turn LOS | E | F | C |
| Northbound Left Turn Delay (seconds) | 60.9 | 154 | 64 |
| Northbound Left Turn LOS | E | F | E |

Level of service E is considered acceptable for urban streets during peak traffic conditions. The increase in traffic reduces the level of service at the College and Rollins intersection to LOS F for westbound traffic and the northbound left turn. This condition can be mitigated with the construction of a dedicated westbound left turn lane as a future project. See additional discussion on future projects later in this report.

Landscaping Alternatives

The issue of providing landscaping with plants and/or trees was extensively discussed by the design team, and members of City staff, University of Missouri representatives, and MoDOT representatives. Landscaping was discussed both in the median and along the sides of the roadway. Issues involving landscaping in the median include:

- High traffic volumes makes median access dangerous
- Water from irrigation systems can damage the roadway subgrade and decrease pavement life
- Landscape maintenance costs
- Narrow available space for landscaping could require maintenance workers to close a lane of College Avenue during off peak traffic times to perform maintenance

Future Projects to Mitigate Loss of Left Turn Access

The following list of projects was developed that could be constructed in the future to mitigate the displaced left turns into and out of the East Campus neighborhood:

1. Widen the east leg of Rollins Street to the south, which avoids the Sanborn Field historic site, to construct a dedicated left turn lane and modify the traffic signal to allow a protected westbound left turn onto College.
2. Widen the northeast quadrant of College Avenue at Ashland Road to allow southbound U-turns. This would involve right-of-way acquisition from the University of Missouri and the reconstruction of the traffic signal base and mast arm at this intersection quadrant.
3. No parking on either side of William Street, south of Ross Street. This improves capacity on William Street to accommodate the displaced left turns. No houses front on William Street south of Ross so this will create minimal inconvenience to residents. Also, change available parking on William Street, south of University, to the east side only so southbound traffic (displaced left turns) has a better view of oncoming traffic.
4. Add an eastbound right turn lane at University and College. Clearing those right turns, which may be the heaviest movement, really helps lower delays for the intersection as a whole – it even helps clear the westbound left more efficiently because it clears the opposing traffic more quickly. A triangular island at the southwest corner of the intersection could improve pedestrian safety.
5. Widen the east leg of University Avenue at College Avenue to the south to install a second westbound left turn lane. A dedicated pedestrian phase or even just a dedicated left turn green arrow that would come up without a pedestrian walk indication may help. If a separate left arrow phase significantly reduces capacity in the corridor, MoDOT has used a four-section head that gives a green arrow every-other cycle if the lefts are not clearing under the yielding yellow-left-flashing-arrow condition.
6. Change the one-way traffic direction on Bouchelle Avenue to eastbound. This helps the residents on Bouchelle Avenue access College Avenue easier by not driving around the block to go south.
7. Change the one-way traffic direction on Lee Street to northbound if Bouchelle Avenue is changed to eastbound only. This helps the residents on Ross Street access College Avenue easier by not forcing them onto William Street.

PUBLIC ENGAGEMENT PROCESS – PHASE 2

Newsletter

A newsletter summarizing the comments received during the first interested parties meeting was sent on January 30, 2014. The newsletter was posted on the City website as well as sent by e-mail and/or U.S. Mail to the people who signed in at the first interested parties meeting or provided on-line comments. A copy of this newsletter is included in Appendix 7 of this report.

Interested Parties Meeting #2 Announcement

A postcard announcement providing details of the second interested parties meeting was mailed to all of the property owners and residents along College Avenue. An e-mail announcement was sent to all people who signed in at the first interested parties meeting that provided an e-mail address or provided on-line comments. A copy of the postcard is included in Appendix 7 of this report.

The City of Columbia issued a press release regarding the project and the second interested parties meeting. Details about the project and meeting were also placed on a project webpage linked to the City Public Works website.

Interested Parties Meeting #2

Alternatives A through H were presented to the public at the second interested parties meeting. Copies of the display boards for the meeting are included in Appendix 8 of this report. The following table provides a summary of the comments concerning the alternatives:

Summary of Public Comments

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| Comments indicating a Preferred Alternative | | | | | | | | | | | | | | | |
| Preferred Alternative A or B | | | | | | | | | | | | | | | |
| <i>2 people preferred Alternate A; 3 people preferred Alternate B; 3 people preferred Alternate A or B</i> | | | | | | | | | | | | | | | |
| Preferred Alternative D - HAWK Signal Only | | | | | | | | | | | | | | | |
| Preferred Alternative E - raised island with HAWK | | | | | | | | | | | | | | | |
| Preferred Alternative H - full traffic signal at Wilson Street | | | | | | | | | | | | | | | |
| Additional Comments | | | | | | | | | | | | | | | |
| Preferred a fence on the west side of College Avenue | | | | | | | | | | | | | | | |
| Prefer not to build anything | | | | | | | | | | | | | | | |
| Concern regarding loss of left turn; Spend money educating pedestrians; Consider "hefty fines" for jaywalking to change student behavior | | | | | | | | | | | | | | | |
| Prefer an option with trees and/or landscaping | | | | | | | | | | | | | | | |

Notes:

24 written comments were received at the second Interested Parties Meeting.

1 additional comment was received by e-mail from a participant who also submitted a comment at the meeting.

No on-line comments were received.

A detailed breakdown of the comments and copies of all of the comments received are included in Appendix 8. One e-mail comment and no on-line comments were received following the second interested parties meeting.

PREFERED ALTERNATIVE

Based on the results of the 2009 pedestrian study and data gathered during the public outreach process, we recommend constructing Alternative A, a median with a low concrete wall with stone finish and short fence on top that will channelize pedestrians to two mid-block crosswalks with HAWK signals. The proposed wall would include aesthetic features to complement the corridor. A full color rendering of this option's northern crosswalk is included in Appendix 9. The northern crosswalk would be located at the main east-west campus walkway to Memorial Union. The southern crosswalk would be located approximately 75 feet north of the Physics building driveway.

Both Alternative A and B were preferred by the largest group of people who commented at the second interested parties meeting. Both Alternatives A and B are supported by MoDOT. The University of Missouri prefers Alternative A over Alternative B.

Alternative A will provide the biggest safety improvement for the most vulnerable population group, pedestrians. We realize this alternate will not receive 100 percent approval from all parties involved as it does not include landscaping in the median or allow left turn access to and from College Avenue. Restricting left turns will greatly improve pedestrian safety. The project will improve safety for maintenance workers by only including very low maintenance hardscape in the median.

This project will displace approximately 140 left turning vehicles into and out of the East Campus neighborhood during the peak traffic hour. These displaced left turns would need to use William Street, a neighborhood collector intended to carry larger volumes of traffic, to access Rollins Street or University Avenue to make a left turn. Future roadway improvements would need to be constructed to mitigate the displaced left turns. The most important future improvement is the addition of a dedicated westbound left turn lane at the Rollins Street and College Avenue intersection.

Alternative A is estimated to cost \$750,000, including a 15 percent contingency. This project cost exceeds the \$670,000 grant funds available for construction by approximately \$80,000. If additional funds are not available, we would recommend constructing Alternative B, a raised median with iron fence. This alternative is estimated to cost \$490,000. A full color rendering of Alternative B is in Appendix 8.

Alternatives A and B are very similar in most respects. The vertical element, whether it is the concrete wall with form liners to give it a stone appearance or metal fence, could be bid as "add alternates" in the construction contract to keep the project within budget.

SUMMARY

The City of Columbia and University of Missouri have partnered to improve safety for pedestrians and motorists along College Avenue between University Avenue on the north and Rollins Street on the south. The City of Columbia is the lead agency for construction of the proposed improvements. The City of Columbia hired Engineering Surveys and Services in September 2013 to conduct a public engagement process and to design the proposed improvements.

Following the public engagement process, Alternative A, with a low concrete wall stamped to look like stone with a short fence on top is recommended to channel pedestrians to two mid-block signalized intersections. The signals will be High Intensity Activated Crosswalk, or HAWK, signals that will stop traffic to allow pedestrians to cross College Avenue. This option restricts left turn access into and out of the East Campus neighborhood between University Avenue and College.

While this project will not be accepted by 100 percent of the public, it will be a major safety improvement to the unsafe conditions along College Avenue. This project will improve safety for the 19,000 vehicle drivers per weekday that drive along College Avenue as well as the 2,500 pedestrians who currently cross College mid-block every weekday. The inconvenience of displacing 140 left turning vehicles in the peak hour is out-weighed 3-to-1 by the improvements to help 460 pedestrians per peak hour more safely cross College Avenue.

APPENDIX 1

MODOT LEFT TURN LETTER

Missouri Department of Transportation

1511 Missouri Blvd.
P.O. Box 718
Jefferson City, Missouri 65102
573.751.3322
Fax: 573.522.1059
1.888.ASK MODOT (275.6636)

March 5, 2014

Mr. John Glascock
Director of Public Works
City of Columbia
701 E. Broadway
Columbia, MO 65201

Dear Mr. Glascock:

Thank you for asking us to clarify the pedestrian safety improvements we would accept along College Avenue from University Avenue to Rollins Road as part of the College Avenue Safety Enhancement (CASE) project.

As you know, this project is a top priority of the University of Missouri and has received funding through a safety enhancement grant. The Missouri Department of Transportation supports the two preferred alternatives - Alternatives A and B - that have been developed and presented to interested parties. Each of these alternatives shares a continuous vertical element along the full corridor that channels pedestrians to the mid-block crosswalks, thus meeting the requirements of the safety enhancement grant. We believe allowing left turns onto or off of College Avenue would greatly reduce pedestrian safety.

I hope this answers your questions. If you have any other questions, concerns or suggestions, please don't hesitate to give me a call. We are open to any recommendations you and the university may have to improve safety along College Avenue, and we look forward to working with you to review suggested improvements on this busy section of highway.

Sincerely,



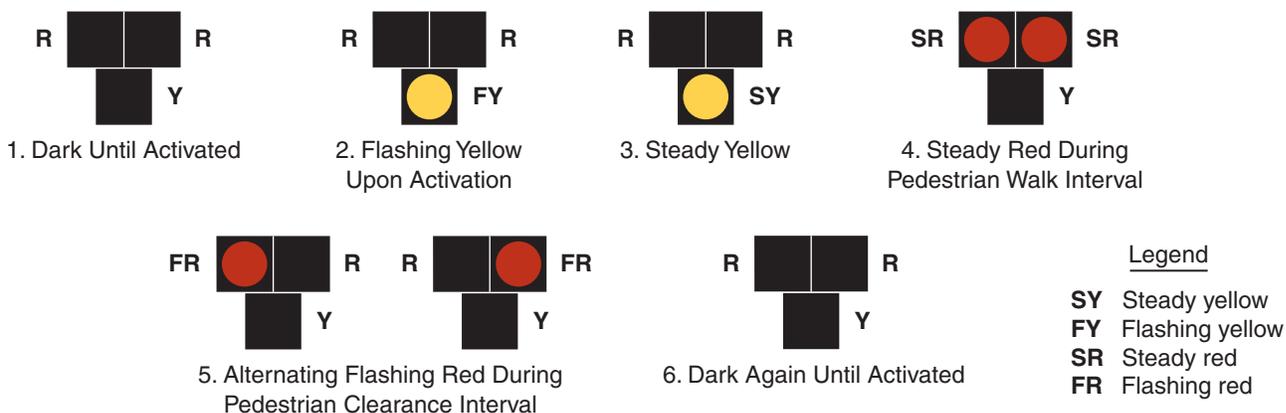
David T. Silvester, P.E.
District Engineer

cc: Mike Schupp - cdae
Jenni Jones - cdtg



APPENDIX 2

HAWK SIGNAL AND FEDERAL HIGHWAY ADMINISTRATION INFORMATION

Figure 4F-3. Sequence for a Pedestrian Hybrid Beacon

B. Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk, or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance,

C. The installation should include suitable standard signs and pavement markings, and

D. If installed within a signal system, the pedestrian hybrid beacon should be coordinated.

05 On approaches having posted or statutory speed limits or 85th-percentile speeds in excess of 35 mph and on approaches having traffic or operating conditions that would tend to obscure visibility of roadside hybrid beacon face locations, both of the minimum of two pedestrian hybrid beacon faces should be installed over the roadway.

06 On multi-lane approaches having a posted or statutory speed limits or 85th-percentile speeds of 35 mph or less, either a pedestrian hybrid beacon face should be installed on each side of the approach (if a median of sufficient width exists) or at least one of the pedestrian hybrid beacon faces should be installed over the roadway.

07 A pedestrian hybrid beacon should comply with the signal face location provisions described in Sections 4D.11 through 4D.16.

Standard:

08 **A CROSSWALK STOP ON RED (symbolic circular red) (R10-23) sign (see Section 2B.53) shall be mounted adjacent to a pedestrian hybrid beacon face on each major street approach. If an overhead pedestrian hybrid beacon face is provided, the sign shall be mounted adjacent to the overhead signal face.**
Option:

09 A Pedestrian (W11-2) warning sign (see Section 2C.50) with an AHEAD (W16-9P) supplemental plaque may be placed in advance of a pedestrian hybrid beacon. A warning beacon may be installed to supplement the W11-2 sign.

Guidance:

10 *If a warning beacon supplements a W11-2 sign in advance of a pedestrian hybrid beacon, it should be programmed to flash only when the pedestrian hybrid beacon is not in the dark mode.*

Standard:

11 **If a warning beacon is installed to supplement the W11-2 sign, the design and location of the warning beacon shall comply with the provisions of Sections 4L.01 and 4L.03.**

Section 4F.03 Operation of Pedestrian Hybrid Beacons

Standard:

01 **Pedestrian hybrid beacon indications shall be dark (not illuminated) during periods between actuations.**

02 **Upon actuation by a pedestrian, a pedestrian hybrid beacon face shall display a flashing CIRCULAR yellow signal indication, followed by a steady CIRCULAR yellow signal indication, followed by both steady CIRCULAR RED signal indications during the pedestrian walk interval, followed by alternating flashing CIRCULAR RED signal indications during the pedestrian clearance interval (see Figure 4F-3). Upon termination of the pedestrian clearance interval, the pedestrian hybrid beacon faces shall revert to a dark (not illuminated) condition.**

03 **Except as provided in Paragraph 4, the pedestrian signal heads shall continue to display a steady UPRAISED HAND (symbolizing DONT WALK) signal indication when the pedestrian hybrid beacon faces are either dark or displaying flashing or steady CIRCULAR yellow signal indications. The pedestrian signal heads shall display a WALKING PERSON (symbolizing WALK) signal indication when the pedestrian hybrid beacon faces are displaying steady CIRCULAR RED signal indications. The pedestrian signal heads shall display a flashing UPRAISED HAND (symbolizing DONT WALK) signal indication when the pedestrian hybrid beacon faces are displaying alternating flashing CIRCULAR RED signal indications. Upon termination of the pedestrian clearance interval, the pedestrian signal heads shall revert to a steady UPRAISED HAND (symbolizing DONT WALK) signal indication.**

Option:

04 Where the pedestrian hybrid beacon is installed adjacent to a roundabout to facilitate crossings by pedestrians with visual disabilities and an engineering study determines that pedestrians without visual disabilities can be allowed to cross the roadway without actuating the pedestrian hybrid beacon, the pedestrian signal heads may be dark (not illuminated) when the pedestrian hybrid beacon faces are dark.

Guidance:

05 *The duration of the flashing yellow interval should be determined by engineering judgment.*

Standard:

06 **The duration of the steady yellow change interval shall be determined using engineering practices.**

Guidance:

07 *The steady yellow interval should have a minimum duration of 3 seconds and a maximum duration of 6 seconds (see Section 4D.26). The longer intervals should be reserved for use on approaches with higher speeds.*

Pedestrian Hybrid Beacon

The *pedestrian hybrid beacon* (also known as the **H**igh intensity **A**ctivated cross**W**alk (or HAWK)) is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings. The beacon head consists of two red lenses above a single yellow lens. The beacon head is “dark” until the pedestrian desires to cross the street. At this point, the pedestrian will push an easy to reach button that activates the beacon. After displaying brief flashing and steady yellow intervals, the device displays a steady red indication to drivers and a “WALK” indication to pedestrians, allowing them to cross a major roadway while traffic is stopped. After the pedestrian phase ends, the “WALK” indication changes to a flashing orange hand to notify pedestrians that their clearance time is ending. The hybrid beacon displays alternating flashing red lights to drivers while pedestrians finish their crossings before once again going dark at the conclusion of the cycle.

Background

Midblock locations account for more than 70 percent of pedestrian fatalities. Vehicle travel speeds are usually higher at midblock locations, contributing to the higher injury and fatality rates at these locations. More than 80 percent of pedestrians die when hit by vehicles traveling at 40 mph or faster while less than 10percent die when hit at 20 mph.

The pedestrian hybrid beacon is a great intermediate option between the operational requirements and effects of a rectangular rapid flash beacon and a full pedestrian signal because it provides a positive stop control in areas without the high pedestrian traffic volumes that typically warrant the installation of a signal. In addition, the alternating red signal heads allows vehicles to proceed once the pedestrian has cleared their side of the travel lane, thus improving vehicle traffic flow.



Installation of the pedestrian hybrid beacon has been shown to provide the following safety benefits:

- ♦ Up to a 69 percent reduction in pedestrian crashes; and
- ♦ Up to a 29 percent reduction in total roadway crashes.

Guidance

Pedestrian hybrid beacons should only be used in conjunction with a marked crosswalk. In general, they should be used if gaps in traffic are not adequate to permit pedestrians to cross, if vehicle speeds on the major street are too high to permit pedestrians to cross, or if pedestrian delay is excessive. Transit and school locations may be good places to consider using the pedestrian hybrid beacon. Chapter 4F of the Manual on Traffic Control Devices (MUTCD) contains a chapter on the pedestrian hybrid beacon and when and where it should be installed. Practitioners should follow the MUTCD guidelines, which are referenced below. Since the pedestrian hybrid beacon is a traffic control device many people are not yet familiar with, effort should be made to perform outreach to the public before implementation so there is no confusion about how the beacon operates and what drivers and pedestrians should do when encountering it.

Key Resources

A Review of Pedestrian Safety Research in the United States and Abroad

<http://www.walkinginfo.org/library/details.cfm?id=13>

Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations

<http://www.walkinginfo.org/library/details.cfm?id=54>

Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials, 2004 [Available for purchase from AASHTO]

https://bookstore.transportation.org/item_details.aspx?id=119

Pedestrian Road Safety Audits and Prompt List

<http://www.walkinginfo.org/library/details.cfm?id=3955>

FHWA Office of Safety Bicycle and Pedestrian Safety

http://safety.fhwa.dot.gov/ped_bike/

Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities (NCHRP Report 674)

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_674.pdf

Manual on Uniform Traffic Control Devices, Chapter 4F. Pedestrian Hybrid Beacons

<http://mutcd.fhwa.dot.gov/htm/2009/part4/part4f.htm>

Safety Effectiveness of the HAWK Pedestrian Crossing Treatment

<http://www.fhwa.dot.gov/publications/research/safety/10042/10042.pdf>

Crash Modification Factors (CMF) Clearinghouse [*quick search* "HAWK"]

<http://www.cmfclearinghouse.org>

FHWA Contacts

Office of Safety: Tamara Redmon, tamara.redmon@dot.gov , 202-366-4077

FHWA Office of Research: Ann Do, ann.do@dot.gov, 202-493-3319

FHWA Resource Center: Peter Eun, peter.eun@dot.gov, 360-753-9551

FHWA Website: http://safety.fhwa.dot.gov/ped_bike/

APPENDIX 3.1

EAST CAMPUS NEIGHBORHOOD ASSOCIATION TARGETED OUTREACH

Meeting Notes
College Avenue Safety Enhancement (CASE) Project
Targeted Outreach Meeting: East Campus Neighborhood Association
STP-2100 (522)
 October 18, 2013

**Immediate
Tasks**

| Person | Task Description |
|--------|------------------|
|--------|------------------|

Introductions (See attached attendance list)

1. Orientation (Ben Ross)

- 1.1. Ben began the meeting with a brief background of the project, highlighting the 2009 Pedestrian Traffic Study done on behalf of the University of Missouri (MU). The study evaluated the pedestrian movements across College Avenue between University Avenue and Rollins Street, and how they might be made safer.
- 1.2. He discussed the Transportation Enhancement (TE) grant application awarded by MoDOT; and the partnership between the City of Columbia (City), MU and MoDOT to begin the process of design for this project.
- 1.3. It was stated that the College Avenue Safety Enhancement (CASE) Project, has a primary focus of improving safety for the large pedestrian movement crossing College Avenue between University Avenue and Rollins Street. Ben recounted a story of a friend who was struck by a car in the corridor when he was at MU.
- 1.4. It was pointed out that, although a concept had been presented in the traffic study, there has been no design completed to date on that or any other concept.
- 1.5. Most of the vehicle-pedestrian crashes along the project corridor have occurred at the signalized street intersections, where there are numerous conflict points between turning vehicles and pedestrians.
- 1.6. It was further mentioned that the concept in the traffic study had been the basis for the TE grant application and included several design elements, including:
 - 1.6.1. Two mid-block pedestrian crossings across College Avenue, with wider crosswalks and a pedestrian haven in the current center turn lane;
 - 1.6.2. The possibility of pedestrian signals at the crosswalk locations, specifically HAWK signals;
 - 1.6.3. A center median that would not allow left turn movements along the project corridor;
 - 1.6.4. A “barrier” that would channelize the pedestrian movements to the mid-block crossings;
 - 1.6.5. It was discussed that the term “barrier” or “barricade” that had been used in various Council memos or newspaper articles was not fully descriptive, but that there was a definite “vertical element” that was part of the TE grant application that might consist of a combination median and fence, a vertical concrete structure with or without landscaped features, etc.
- 1.7. The process to define the project elements and begin the development of three alternatives had gotten underway with an October 3rd Kickoff Meeting of the three public agency partners and the design team, led by Engineering Surveys and Services (ES&S).
- 1.8. Today’s “targeted outreach” meeting was one of several that would be held to better understand stakeholder issues, concerns, etc. prior to moving forward with the first Interested Parties Meeting, tentatively scheduled for mid-November. Additional targeted stakeholders included the appropriate

campus planning and transportation committees, and emergency service providers for both the MU campus and the City of Columbia.

1.9. With this introduction, Ben opened the floor for comments.

2. East Campus Neighborhood Association (ECNA) Comments

- 2.1. Janet Hammen, ENCA President, then began to go through a list of issues relative to College Avenue, many of which had been discussed at an October 10th meeting of the Downtown Leadership Council (DLC). As she went through the items, several other ECNA representatives offered input. The following attempts to document those items, but no necessarily identify the individual that brought up each item.
- 2.2. The DLC discussion had a focus on improvements to College Avenue, not just from University Ave. to Rollins, but the full corridor roughly bordering the east side of downtown. Issues included:
 - 2.2.1. Possibility of lowering the speed limit
 - 2.2.2. Improving the appearance with landscaping
 - 2.2.3. Providing continuity of appearance throughout the corridor
 - 2.2.4. Considerations of sustainability; specifically mentioned was the issue of stormwater runoff
 - 2.2.5. Reduce lanes or make changes that would slow speed
 - 2.2.6. Provide better multi-modal access for bikes and pedestrians
- 2.3. As discussion continued, the comments became more focused on the CASE Project corridor, but Ms. Hammen mentioned that a summary of the DLC meeting discussion was posted on their website.

3. East Campus Neighborhood Association (ECNA) Comments – continued

- 3.1. There was great concern about the loss of left turns in/out of the neighborhood. Later it was agreed that this was one of the ECNA's biggest issues to be addressed.
- 3.2. One concern of not allowing left turns at College Avenue was the increase in traffic into the neighborhood to cut through to the signalized intersections.
- 3.3. ECNA would like to see an evaluation of impacts to the internal traffic movements with those left turns no longer allowed. Ben Ross said that an evaluation of those impacts and ways to mitigate them was actually part of the scope of this project.
- 3.4. It was asked if reducing College Avenue from 4-lanes to 2-lanes was an option, perhaps with a boulevard appearance. It was noted that the road was a MoDOT facility, and it was unlikely they would be supportive of such a proposal.
- 3.5. The mid-block crossings at Providence Road and on Rangeline Road (east of Columbia College) were mentioned as examples of alternatives that didn't cut off all left turn access, though it was noted those corridors had much fewer pedestrian crossings.
- 3.6. Could a signalized intersection allowing left turns at Wilson Street be an option? Pedestrians could then cross at the signal.
- 3.7. Would the addition of signals, lowering of the speed limit, or other options to calm traffic be considered?
- 3.8. Scott Bitterman pointed out that studies suggest lowering the speed limit does not necessarily reduce actual vehicle speeds, but that other roadway features can alter the driver's perception of a roadway's natural speed limit and result in lower actual vehicle speeds.
- 3.9. There are problems with making left turns at the signalized intersections on either end of the corridor due to the number of pedestrian crossing at the light, so funneling more people to the intersections to cross will be an undesired outcome.
- 3.10. It was mentioned that a left turn signal had been added at Rollins and that left turn movements at both intersections will be evaluated for improvements.
- 3.11. Janet Hammen mentioned that there were issues under consideration with the City that might alter the internal traffic patterns in the neighborhood:
 - 3.11.1. Resident Parking Pass program
 - 3.11.2. Altering one-way and two-way streets in the neighborhood

- 3.12. Question was raised about the capacity of the sidewalks along the corridor, especially the east side, to handle increased peak pedestrian volumes. Along similar lines, has the consideration of the property impacts due to congregating pedestrians at the locations of the crosswalks been examined?
- 3.13. Is the issue of reducing the number of vehicles on campus been addressed? For instance, some universities do not allow freshman to bring cars on campus.
- 3.14. It was noted that the University owns 22,000 parking spaces, but many students (and some faculty) do not wish to pay for parking and use the neighborhood to avoid doing so.
- 3.15. Have the use of roundabouts been considered?
4. **Median “Barrier” Discussion**
 - 4.1. As part of the ECNA discussion, many comments were made about a barrier in the center lane across the project corridor. Because this was brought up at different times in the meeting, we are summarizing those comments below:
 - 4.1.1. General opinion of the group is that a barrier is undesirable, both for aesthetic concerns and for cutting off the ability to cross anywhere along the corridor.
 - 4.1.2. It was pointed out that students will cross anywhere along the corridor if there isn't a means to limit access to certain locations. The example was given of students crossing under the pedestrian bridge south of Rollins.
 - 4.1.3. The issue of enforcement was raised; the campus or city police should enforce jaywalking prohibitions, especially at the beginning of semesters, to set levels of expectations of enforcement.
 - 4.1.4. There was agreement that any feature in the middle turn lane should have an appearance that enhances the corridor and is consistent with the neighborhood and campus expectations. Also, consideration needs to be given to making sure it will be a complement to what might happen along College Avenue both north and south of the project corridor.
5. **Next Steps**
 - 5.1. Similar meetings are planned with other targeted stakeholders:
 - 5.1.1. Campus Planning and a couple of other campus committees are meeting on October 23rd. In addition to members of the CASE Project design team, representatives of the ECNA have been invited to be aware of what is being communicated regarding this project.
 - 5.1.2. Other meetings planned included with emergency service providers from campus (October 22nd) and the City of Columbia (November 13th).
 - 5.1.3. The first Interested Parties Open House Meeting is tentatively scheduled for November 19th at City Hall. Invitations will be mailed to stakeholders before the end of the month.
 - 5.2. A summary of issues raised at this meeting will be prepared and distributed to the ECNA (through Janet Hammen) and to the CASE Project owners and design team.

APPENDIX 3.2

CAMPUS PLANNING COMMITTEE PRESENTATION SLIDES

University of Missouri College Avenue 2009 Pedestrian Study

October 23, 2013

Pedestrian Study

- Given continual concerns, MU hired an independent consultant to identify the most effective means of facilitating safer pedestrian crossings
- CBB performed pedestrian counts and observations September 2009
- Findings and recommendations provided in October 2009 report

Roadway & Traffic Conditions

- Study area
 - University Ave to Bouchelle Ave
 - Approximately 1,200 feet
- Characteristics
 - 5-lane arterial
 - Typical width of 50 feet
 - Speed limit of 35 mph
- 2011 average daily traffic: **nearly 19,000 vehicles**



Pedestrian Conditions

- Very high pedestrian volumes
 - Over 7,500 pedestrian crossings in 2 days
 - 2,500 crossings at University Ave (signalized)
 - Remaining 5,000 not at signalized crosswalks
- Crossings do not align with campus pathways
 - 72% of pedestrians south of Rosemary Ln cross midblock
 - Typically execute 2-stage crossing



Pedestrian Safety

- Pedestrian Related Crash Analysis
 - 11 accidents from June 2005 to September 2009
 - 8 of these occurred in marked crosswalks at signalized intersections
 - 9 accidents from October 2009 to June 2012
 - All reported with injuries
- Average pedestrian crossing delay
 - 1 minute *per direction* of traffic
 - **Unsafe** according to nationally accepted references



Study Recommendations

- Establish crosswalks with colored/textured pavement & install vertical element in middle lane

- Located:

- Between Rosemary Ln & Wilson Ave
- North of Service Drive by Physics Building

- Consider HAWK signals

- **High-Intensity Activated CrossWalk**



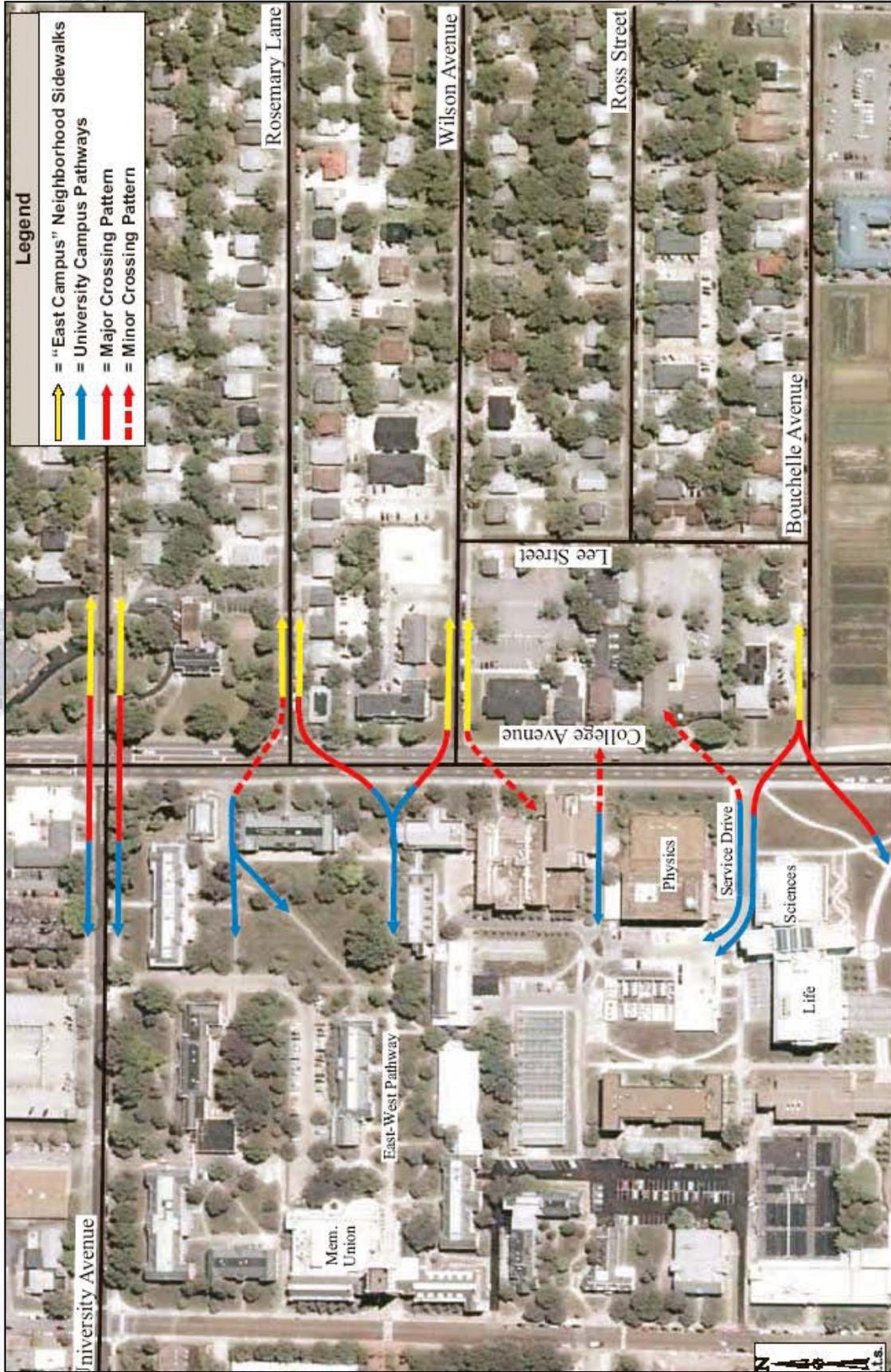
Conclusion

- Pedestrian study found:
 - Unsafe conditions for pedestrians resulting in numerous accidents, often resulting in injuries
- Pedestrian study recommended:
 - Establishing 2 midblock crosswalks, installing a vertical element & consider HAWK signals
- Achieve study goals by:
 - Channeling pedestrians to crosswalk locations & discouraging midblock crossing
 - Providing a pedestrian refuge
 - Alerting motorists to presence of pedestrians

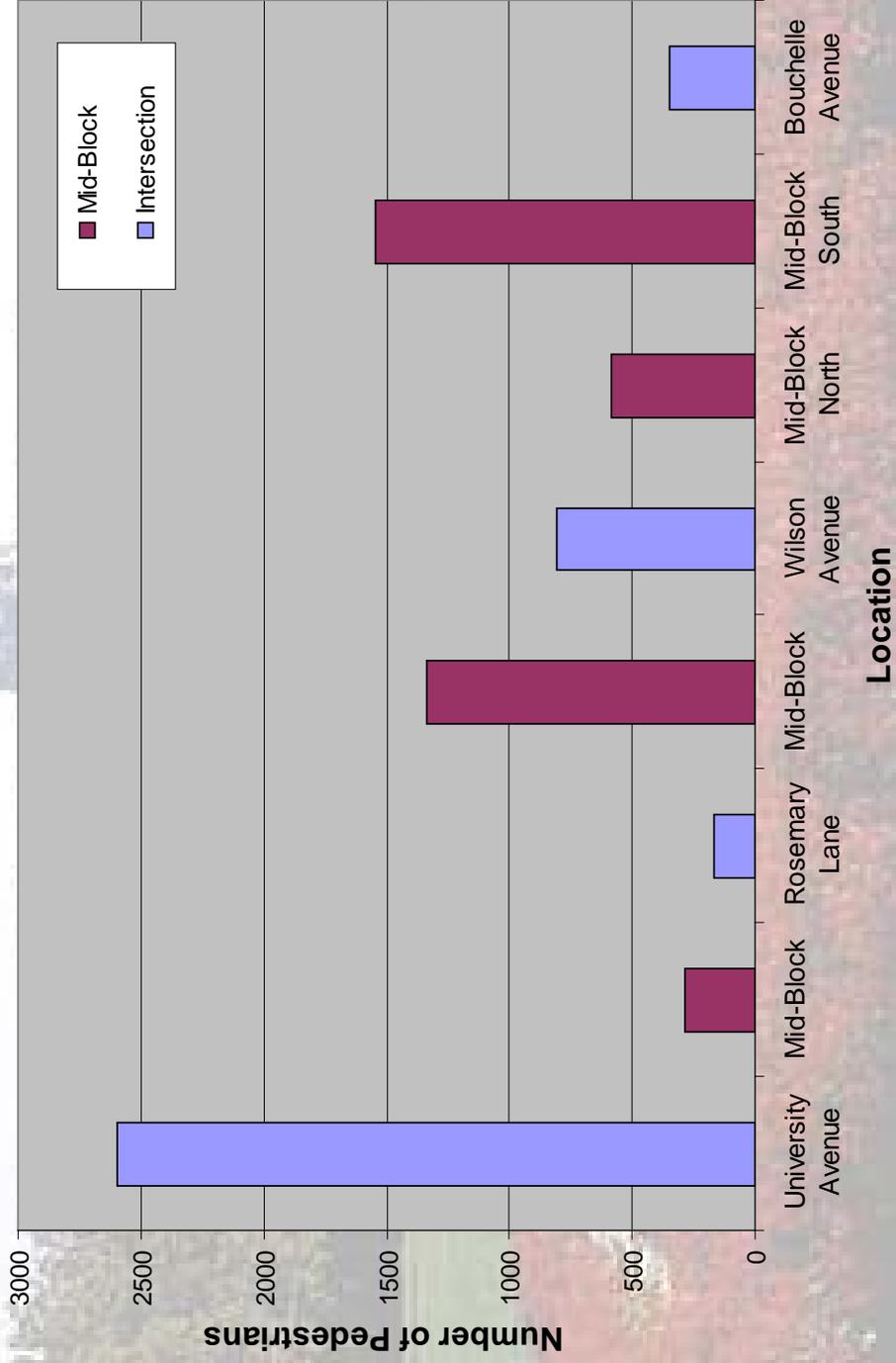
Questions?

Thank You

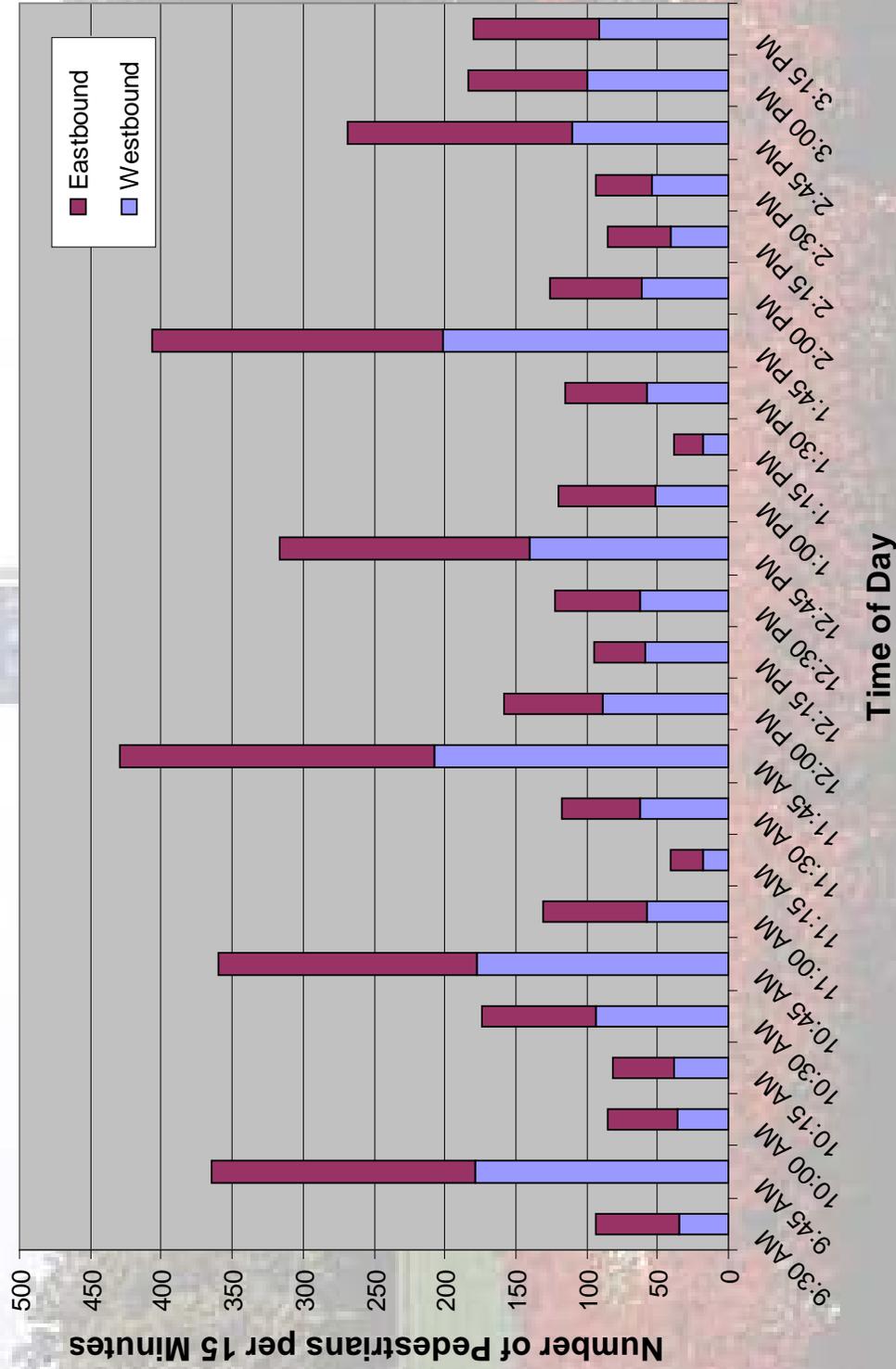
Pedestrian Crossing Patterns



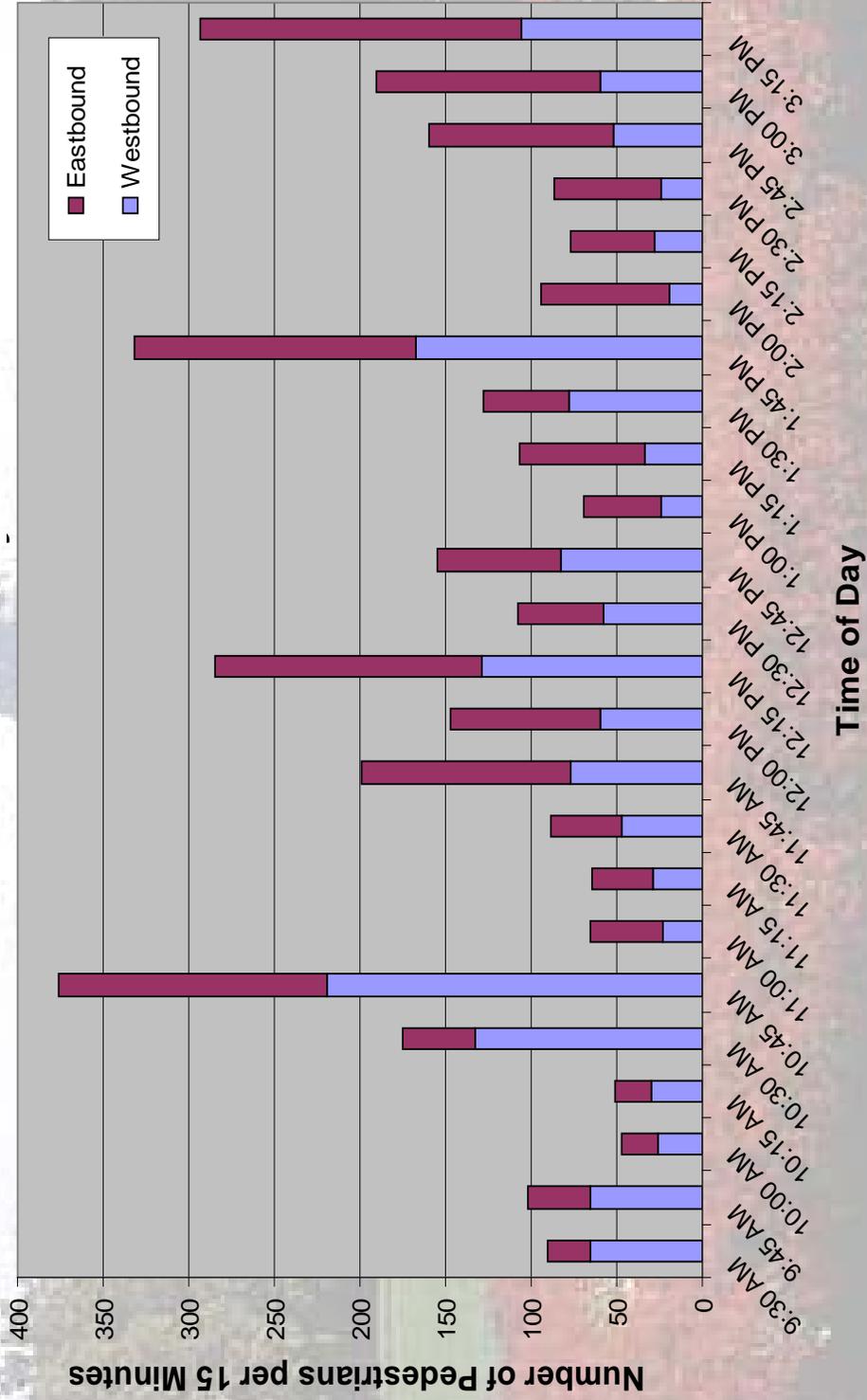
Spatial Distribution of Pedestrian Crossings



Temporal Distribution of Pedestrian Crossings - Wednesday



Temporal Distribution of Pedestrian Crossings – Thursday



Example HAWK Signal

- Advantages:
 - Stops traffic to provide opportunity for pedestrian to cross
 - Minimizes the duration that vehicles are stopped

- <http://www.youtube.com/watch?v=x92c5SHc8yM>



APPENDIX 4
INTERESTED PARTIES MEETING #1 DOCUMENTS

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



MEMORANDUM

TO: CASE Project Team
FROM: John Frerking, ES&S
CC:
RE: Meeting Summary / Interested Parties (IP) Meeting #1
College Avenue Safety Enhancement (CASE) Project

DATE: December 12, 2013

The first of two planned IP Meetings was held on Tuesday, November 19th in the Mezzanine Conference Room at City Hall, 701 E Broadway. It was an open-house style meeting, with the public invited to come between 4:00-7:00 p.m. to view project displays and speak with members of the project design team. Approximately 50 members of the public attended the meeting, and two local television stations had reporters cover the meeting. Members of the project team present at some or all of the meeting included:

City of Columbia – Public Works Department

Scott Bitterman Richard Stone
Cliff Jarvis Steven Sapp
David Nichols

MoDOT – Central District

Mike Schupp

University of Missouri, Campus Facilities

Larry Hubbard

EFK Moen

Linda Moen

Engineering Surveys and Services

Ben Ross John Frerking
Dave Bennett Daniel Schmidt

This memo is a summary compilation of comments received from the public at this first IP Meeting. Appended to the end of this memorandum:

- List of project display boards;
- Project information sheet provided to attendees;
- Copy of the comment form;
- Meeting sign-in sheets;
- Summary of Written/Online Public Comments.

Public Comments Heard at Meeting

This section provides a number of issues heard by project team members from members of the public at the IP Meeting. Although some comments are grouped, they are not provided in a manner to dictate a priority or weight given to any particular comment or opinion.

Safety

- **Acknowledgement of Safety Problem.** There were many commenters that made it clear they understood the safety issues that the City, University and MoDOT were trying to address with the CASE Project.

- **Concern about emergency vehicle access with a median blocking left turns.** It was noted that the project team had met already with first responders from the City and University to discuss the issue, and the ability to make U-turns or access across the median at the crosswalks would be evaluated during design.
- **Pedestrians crossing at signalized intersections.** It was pointed out that this wasn't specifically part of the scope of work for this project, but it was hoped that better mid-block crossing points would draw pedestrian traffic from both University and Rollins. Also, the traffic study for this project will make various improvement recommendations that the City could consider for future projects.
- **Intersection at Rollins & College, with pedestrians crossing and walking eastbound on the north side of Rollins with no sidewalk.** More than one person pointed out the situation of students congregating at this intersection during peak pedestrian periods, and that the lack of a sidewalk between Sanborn Field and Rollins meant pedestrians and cyclists were in frequent conflict with vehicles.
- **Pedestrian signals.** Several persons mentioned a preference to include signals at the crosswalks with this project.

Median / Vertical Element

Feedback was specifically requested regarding the vertical element meant to channelize pedestrians to the mid-block crossings.

- **Landscape Option.** There were several comments that a landscape option should be considered. The concern of long-term maintenance cost and challenges were pointed out by project team members, with responses including focus on less maintenance intensive options like trees with a fence in between to help channelize pedestrians, and consider an "adopt-a-spot" approach with corridor residents (fraternities, ECNA) to maintain.
- **Attractiveness:** Many commented on the concern that more than just function be considered. Unwelcome options included chain-link fence, concrete barriers ("Jersey" barriers), and flexible delineators. Project team members made clear that both the City and University were very interested in an option that fit the character of the campus and neighborhood.
- **Stormwater Capture/Natural Treatment:** A few persons asked about the ability to build, in effect, a bioswale in the median that would have the ability to capture and treat stormwater runoff and serve as a means to channelize pedestrians. Project team members pointed out that, while an interesting idea, this alternative might involve changing the road profile to drain towards the center lane with significant impact to the construction costs.
- **No Vertical Element.** Several persons indicated that no vertical element was necessary; that the problem with crossing College should be a matter of individual responsibility and the option to cross along the entire corridor should be preserved.
- **Underground Option:** One commenter was in favor of a longer-term approach that included one or more pedestrian tunnels, though in the discussion of cost and other constraints such as necessary right-of-way for this option, it was acknowledged these issues would be challenging to address with the CASE Project.

Miscellaneous

- **Left-Turn Option into East Campus Neighborhood (ECN).** Many attendees commented on the desire to have an alternative that maintained a left-turn option into the neighborhood. Discussion with project team members included concerns with avoiding the creation of another

conflict point for vehicles and pedestrians, at either the intersection or a nearby mid-block crosswalk.

- **Vehicle U-Turns Outside of Corridor:** With loss of left-turns into the ECN, there was discussion about considering U-turn options; locations included south of Rollins at or around Ashland Road, or at the signalized intersections.
- **Concerns about Traffic Diversion.** This was noted by a few people with concerns specifically north of University (Anthony and Bass Streets). Project team members indicated this would be considered as part of the project's traffic analysis.
- **Educational Component for CASE Project.** There was a comment that it would be useful to have an educational resource that described the pedestrian behavior change sought with the mid-block crossings, and especially with installation of the proposed HAWK pedestrian signals. This suggestion was well-received and project team members noted this could follow along the lines used recently with the innovative diverging diamond Stadium Blvd. interchange at I-70.

Public Comments from Written/Online Form:

Written comments were received at the meeting and an online form provided on the CASE Project website for two weeks following the IP Meeting. The comment form is included as an attachment to this memorandum. A summary of the comments follows.

Characterization of Respondents

The majority of overall respondents identified themselves as residents in the area, almost all from the ECN. Other significant percentages of those responding included those affiliated with the University and a variety of those designating "Other" – a mix of ECN investment property owners and members of interested groups such as PedNet and the Downtown Leadership Council. Notification for the meeting was split between a number of means, including: mailed postcard invitation, media release, and notification from the City, ECNA or other sources via email or verbally.

Known Concerns

Respondents were asked to provide an opinion on the greatest concerns they had regarding the proposed project. Preliminary outreach had confirmed a number of known concerns, and these were listed on the comment form for the respondents consideration and prioritization:

- Safety of those crossing College Avenue
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior

The results were fairly evenly spread, with many commenters selecting and ranking multiple options. The top three concerns, provided in order of priority were:

1. Safety of pedestrians crossing College Avenue
2. Changing pedestrian behavior
3. Loss of left turn access

A few respondents took the occasion to note the importance of safety while choosing not to select this as a prioritized concern for the CASE Project. It should be noted that there was a stronger preference for the loss of left turn access and related impacts to ECN traffic as a primary concern from those self-identified as residents along the corridor, which was not surprising given early outreach efforts.

Public Comment Impact on Alternative Selection

The following two questions on the comment form requested general responses from respondents, without multiple-choice options:

- *There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.*
- *Please provide any other comments you have about the CASE Project.*

Comments received were evaluated and categorized, and tables identifying a summary description of the respondents and of the comments received are attached to this memo. The following groupings are identified as having the highest prevalence of comments received:

- Loss of left-turn access with associated traffic impacts to the ECN;
- Defer full-build out of center-lane median / barrier infrastructure and begin with defined crosswalks and pedestrian signals, then monitor the impacts on safety;
- Landscaped median as vertical element, or perhaps in lieu of vertical element, is widely preferred to a structural barrier
- Various comments made related to changing behavior in the corridor. The majority dealt with pedestrian behavior, such as what is necessary to channelize those crossing College or to prevent jaywalking. Others dealt with the potential of changing vehicle behavior via traffic calming, reducing the speed limit, or narrowing College Avenue to two-lanes.

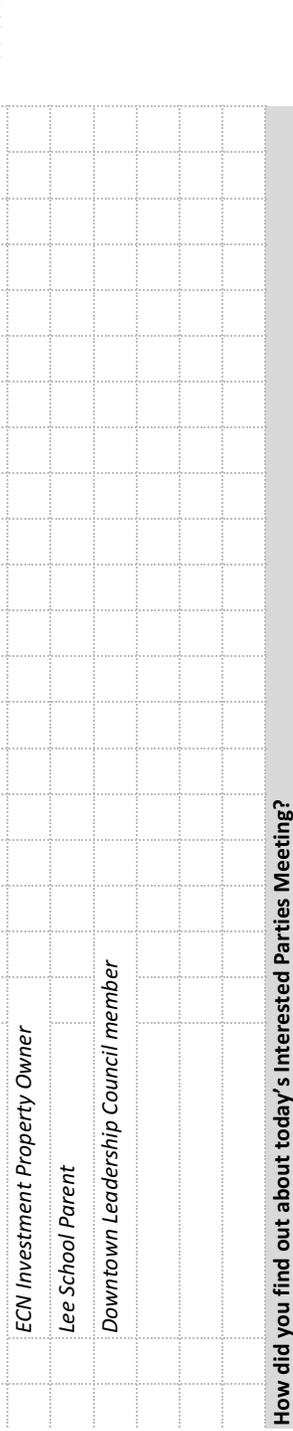
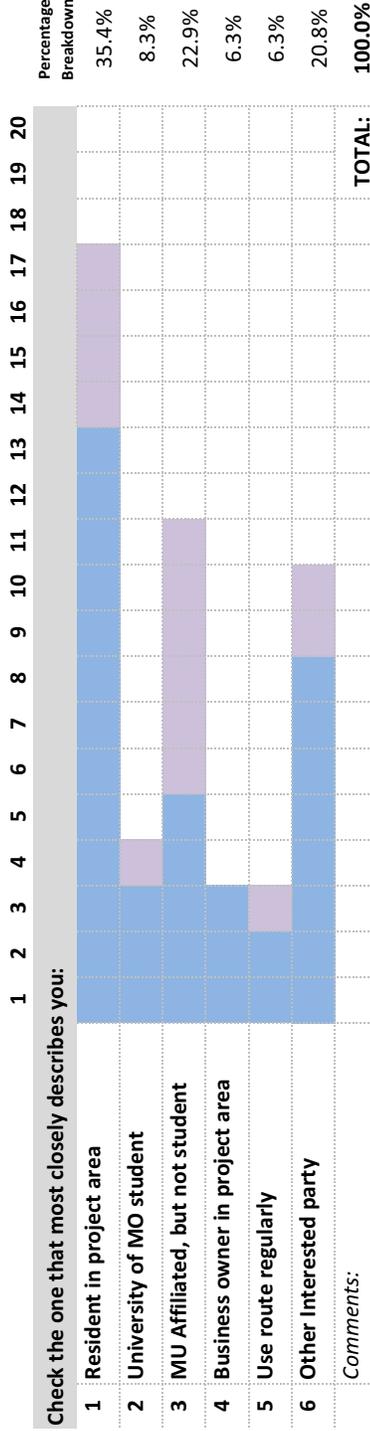
There are variations to each of these general classifications, and there were a number of other comment groupings identified. Those are listed on the attached *Summary of Written/Online Public Comments*.

List of IP Meeting Display Boards and Handout Information

| No. | Description | Stations |
|-----|---|--------------------------------|
| 1 | Project Challenges & Opportunities Listing known concerns and project goals | Boards 1 & 2 shown together |
| 2 | Project Area & 2009 Pedestrian Study Recommendations Two pedestrian crossings and center-lane median on project corridor | |
| 3 | Vehicle Traffic – Existing Conditions Corridor showing vehicle traffic movements; on line drawing showing road network (from CBB 2013 vehicle counts) | Boards 3 & 4 shown together |
| 4 | Pedestrian Traffic – Existing Conditions Corridor showing pedestrian traffic movements; on aerial map showing major & minor crossing preference (from CBB 2009 Traffic Study) | |
| 5 | What Will The Project Look Like? Information about the appearance of project components – crosswalks, pedestrian crossing signals, “vertical element” in median, etc. | Boards 5 & 6 shown together |
| 6 | Project Process & Next Steps Identifying process to be following in completion of the CASE Project | |
| | Project Information Fact-Sheet (see attached) | |
| | IP Meeting Comment Form (see attached) | |

Summary of Written/Online Public Comments RESPONDENT BREAKDOWN

CASE Project - City of Columbia, Missouri Interested Parties Meeting #1 - November 19, 2013



LEGEND

- Response from written comments
- Response from online comments
- Comments noted regarding specific categories of public comments

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COMMENTS:
 1 Some respondents provided more than one item characterizing their interest in the CASE Project; total comments received represented approximately thirty individuals.

**Summary of Written/Online Public Comments
COMMENT BREAKDOWN**

One of the CASE Project displays listed several items noted as "Known Concerns". Please comment on the concern that you believe most critical to be addressed by this project. If you find it difficult to select only one, please note which is the highest priority in the comments:

| | 1 | 1 | 1 | 2 |
|--|---|---|---|---|
| Safety of those crossing College Avenue | | | | |
| Appearance of constructed improvements | 1 | | | |
| Loss of left turn access | 2 | 2 | 3 | |
| Cost of improvements vs. benefit | 4 | | | |
| Changing pedestrian behavior | 2 | 5 | | |
| Other (explain in comments) | | | | |
| <i>student-centric, not neighborhood-centric</i> | | | | |

NOTE: Several commenters provided more than one selection. For those that ranked them in order of importance, those rankings are reflected in the numbers shown above. All other selections were assumed to be equally of the highest priority.

The comment form asked for general comments to the following specific questions:

Q. There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Q. Please provide any other comments you have about the CASE Project:

This is the summary of written comments received to these questions, categorized:

| | | | | |
|--|--|--|--|--|
| 1 U-Turns at intersections; | | | | |
| <i>Give south-bound College Ave. vehicles a means to U-turn to get back into ECN</i> | | | | |
| 2 Educational component for cyclists; Need for bike lanes | | | | |
| <i>"Dismount & Walk" signage; too many ride on sidewalks</i> | | | | |
| 3 Channelization / barrier effective for student safety | | | | |
| <i>Must be high enough to deter jumping;</i> | | | | |
| 4 Loss of left turns; Concern w/ increased traffic in NE neighborhood | | | | |
| <i>University & Wilson specifically noted by several: need access to turn south from ECN; need to address parking in ECN; Solution is "student-centric", not considering residents</i> | | | | |
| 5 Behavior changes critical | | | | |
| <i>More crosswalks; enforce jaywalking; "social-norming" campaign; snow removal issues can be deterrent to getting to crosswalks;</i> | | | | |

City of Columbia
Public Works Department
701 E Broadway
PO Box 6015
Columbia, MO 65205



JOIN US!

Join us at a **November 19th Open House** meeting to introduce the:

College Avenue Safety Enhancement (CASE) Project

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This is an opportunity to improve safety along a high-traffic corridor for both vehicles and pedestrians—come to learn more about the project’s challenges, goals and opportunities.



JOIN US!



**OPEN HOUSE / INTERESTED
PARTIES MEETING**

**COLLEGE AVENUE SAFETY
ENHANCEMENT PROJECT**

WHEN: November 19 , 2013
4:00 - 7:00 p.m.

WHERE: City Hall—701 E Broadway
Mezzanine Conference Room

PROJECT SPONSORS



The CASE Project will be a major step to avoid future articles such as this from a September 2009 edition of the *Columbia Missourian*.

MU student hit while jaywalking on College Ave.

Wednesday, September 2, 2009 | 4:03 p.m. CDT; updated 10:43 p.m. CDT, Wednesday, September 2, 2009

BY ANDREW FEILER

A black Ford Focus moving southbound on College Avenue struck 20-year-old MU student [REDACTED] at about noon Wednesday, MU police said. According to Capt. Brian Weiner, [REDACTED] was attempting to cross four lanes of traffic from Bouchelle Avenue toward MU.

The City of Columbia Public Works Department will host an informal Open House/ Interested Parties meeting for the *College Avenue Safety Enhancement (CASE) Project*, a proposal to provide for safer travel for both pedestrians and vehicles on College Avenue between University Avenue and Rollins Street.

Information about the traffic study that proposed this project, and other related information, will be available for public review. Staff members from the City's Engineering Division and the project design team will be present to ask and answer questions. Input received will guide the development of design alternatives.

If you are unable to attend the meeting and wish to provide comments, or simply have questions about the CASE Project, contact Scott Bitterman at (573) 874-7250 or email at: PubW@GoColumbiaMo.com. If contacting by email, please reference "CASE Project" in the subject line.

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Project History

In 2009, a pedestrian traffic study (Study) evaluating College Avenue between University Avenue to the north and Rollins Street to the south, was completed. College Avenue, which is also designated MO Route 763 and maintained by MoDOT, is a busy north-south urban arterial with two travel lanes in each direction and an uninterrupted center turn lane. For many years, students populating the neighborhoods to the east of the UMC campus have crossed College between the signals at the intersections of University and Rollins, often stopping the middle turn lane waiting for traffic to clear to complete their crossing. **This is a dangerous situation!**

“The [study’s] overarching goal was to identify the most effective means of facilitating safer pedestrian crossings and recommend appropriate treatments, as necessary.” While there are pedestrian bridges elsewhere on campus, the study pointed out that due to potential property impacts and the significant number of pedestrian crossings spread along the entire 1,200-LF corridor, that a grade-separated structure was not a preferred solution. Instead, the study recommended channelizing pedestrians to mid-block pedestrian crossings, and to provide havens in the center of the N-S traffic lanes where protection could be provided for pedestrians as they cross the roadway. In addition, pedestrian signals were an option for consideration to allow the crossings to be better controlled. (*College Avenue Pedestrian Study - October 6, 2009; prepared for University of Missouri – Columbia by Crawford, Bunte, Brammeier - St. Louis, Missouri*).

In 2012, the University and the City of Columbia partnered to apply for a MoDOT-sponsored Transportation Enhancement (TE) grant to construct the improvements recommended by the Study and later that year, were informed the application was successful. In May 2013, the City and University agreed to provide matching funds for the MoDOT TE grant, for a project totaling approximately \$824,000. In October 2013, a kickoff meeting was held with the design team selected to define and design the pedestrian safety improvements was given a notice to proceed and is beginning the process of getting input from project stakeholders, impacted residents in the project corridor, and other interested parties.

Project Specifics

The **College Avenue Safety Enhancement (CASE) Project** corridor runs approximately 1500-LF, between University Avenue and Rollins Street. College Avenue, also MO Route 763, is a MoDOT roadway that borders the eastern edge of the University of Missouri’s campus. Several University-recognized fraternity houses line the east side of College Avenue. Continuing to the east is the East Campus Neighborhood Association - an established Columbia neighborhood with a diverse mix of single-family residential homes, both owner-occupied and rental units, and multi-family dwellings serving primarily as student housing. Through conversations with the project partners and interested parties in the proximity of the project corridor, there have been a number of items identified as concerns or goals established for the CASE Project:

Known Concerns

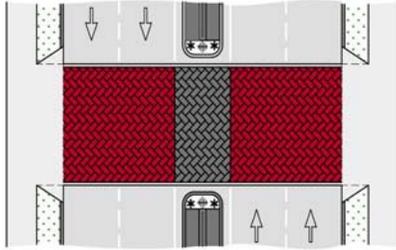
- ◆ UNSAFE!!
- ◆ Left Turn Restrictions
- ◆ Unattractive
- ◆ Conflicts at Signalized Intersections
- ◆ Cost
- ◆ Students Might Ignore Crosswalks
- ◆ Barrier Might Create Unintended Consequences

Established Goals

- ◆ Improve Safety!!
- ◆ Emergency Services Coordination
- ◆ Behavior Changes:
 - Channelize Pedestrians
 - Enforcement Policies
 - Vehicle Turns at Traffic Signals
- ◆ Pedestrian Signals
- ◆ Recommendations for ECN Traffic
- ◆ Reflect Identity(ies) within Project Corridor

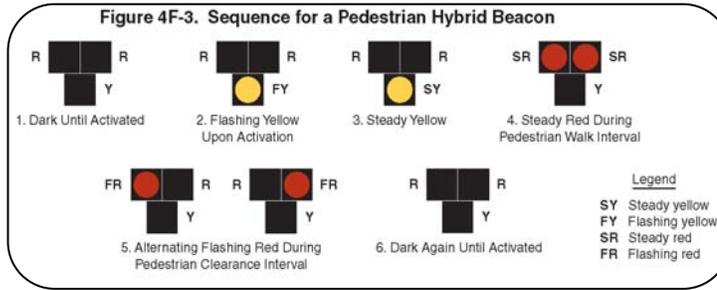
Project Appearance

The CASE Project proposes two mid-block crossings, roughly equally spaced between the signalized intersections at Rollins and University. The crosswalks are likely to be consistent in appearance with other crossings found along the corridor, though due to the large number of pedestrians crossing College Avenue, they will be substantially wider - between 15-25 feet. Unique signals to control the vehicles on College are proposed to improve safety during peak pedestrian traffic.



Wider than typical w/ ped haven in center lane

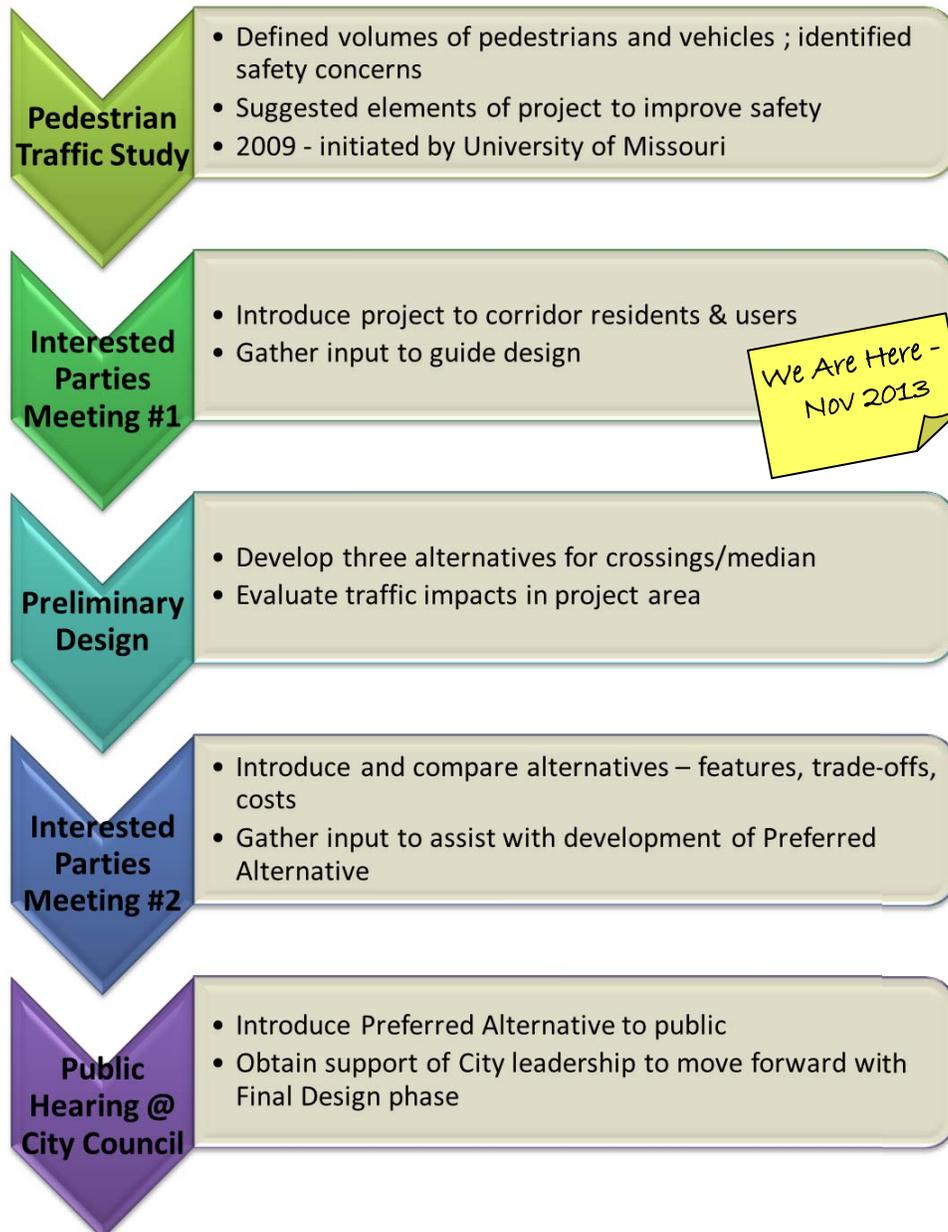
HAWK Pedestrian Signals High-Intensity Activated CrossWalk Beacon



Consistent Crosswalk Pattern & Color (College & Ashland shown)

Project Process

The CASE Project will follow a process as shown in the diagram (left). The City of Columbia and their design team are currently seeking input to guide the development of alternatives for the look and location of the crossings, the median and vertical element, and to understand concerns and mitigate impacts caused by the project. We are actively seeking comments from those interested in this project, and look forward to hearing from those that reside along or utilize this corridor, as well as the general public.



For More Information:

Contact Mr. Cliff Jarvis, P.E., at (573) 874-7250 or via email at PubW@GoColumbiaMo.com.

If contacting by email, please reference "CASE Project" in the subject line.

Information from this Interested Parties Meeting, as well as ongoing project status and information, will be posted at:

www.MakeTheCASEProject.com



COMMENT FORM

The City of Columbia values your input! Please offer your thoughts about the CASE Project’s goals, concerns you might have about the project, and the appearance of the project once complete. **Please provide us your contact information below to receive CASE Project updates.** We will be providing future updates about this project by email, including the announcement of the 2nd Interested Parties Meeting in early 2014. Please indicate below if you wish to receive hard copy mailings only.

As the project progresses, information will be posted to the project website at the following link:

www.MakeTheCASEProject.com

If you prefer to comment online, this form will be available on the project website. Send comments via email at PubW@GoColumbiaMo.com, or in regular mail to the attention of Mr. Cliff Jarvis, P.E., at:

City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

Preferred Email Address: _____ *(encouraged)* *Please do not contact me via email*

Preferred Telephone #: _____ *(optional)*

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today’s Interested Parties Meeting?

- Postcard invitation Newspaper/Radio Comments: _____
- Email media release Other (explain in comments) _____

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

One of the CASE Project displays listed several items noted as “Known Concerns”. Please comment on the concern that you believe most critical to be addressed by this project. If you find it difficult to select only one, please note which is the highest priority in the comments:

- Safety of those crossing College Avenue Comments: _____
- Appearance of constructed improvements _____
- Loss of left turn access _____
- Cost of improvements vs. benefit _____
- Changing pedestrian behavior _____
- Other (*explain in comments*) _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: _____

Please provide any other comments you have about the CASE Project:

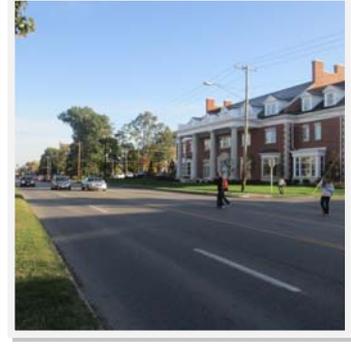
Comments: _____

On behalf of the City of Columbia and project design team, thank you for attending today’s Interested Parties Meeting!

Project Challenges & Opportunities



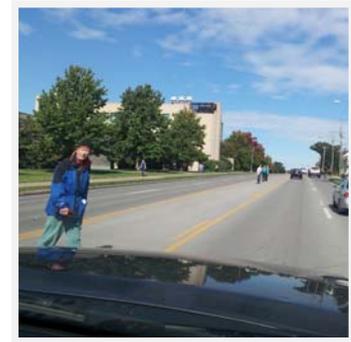
- ◆ **UNSAFE!!**
- ◆ **Left Turn Restrictions**
- ◆ **Unattractive**
- ◆ **Conflicts at Signalized Intersections**
- ◆ **Cost**
- ◆ **Students Might Ignore Crosswalks**
- ◆ **Barrier Might Create Unintended Consequences**



Known Concerns



- ◆ **Improve Safety!!**
- ◆ **Emergency Services Coordination**
- ◆ **Behavior Changes:**
 - *Channelize Pedestrians*
 - *Enforcement Policies*
 - *Vehicle Turns at Traffic Signals*
- ◆ **Pedestrian Signals**
- ◆ **Recommendations for ECN Traffic**
- ◆ **Reflect Identity(ies) within Project Corridor**



Established Goals



College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



PROJECT AREA & 2009 PEDESTRIAN STUDY RECOMMENDATION

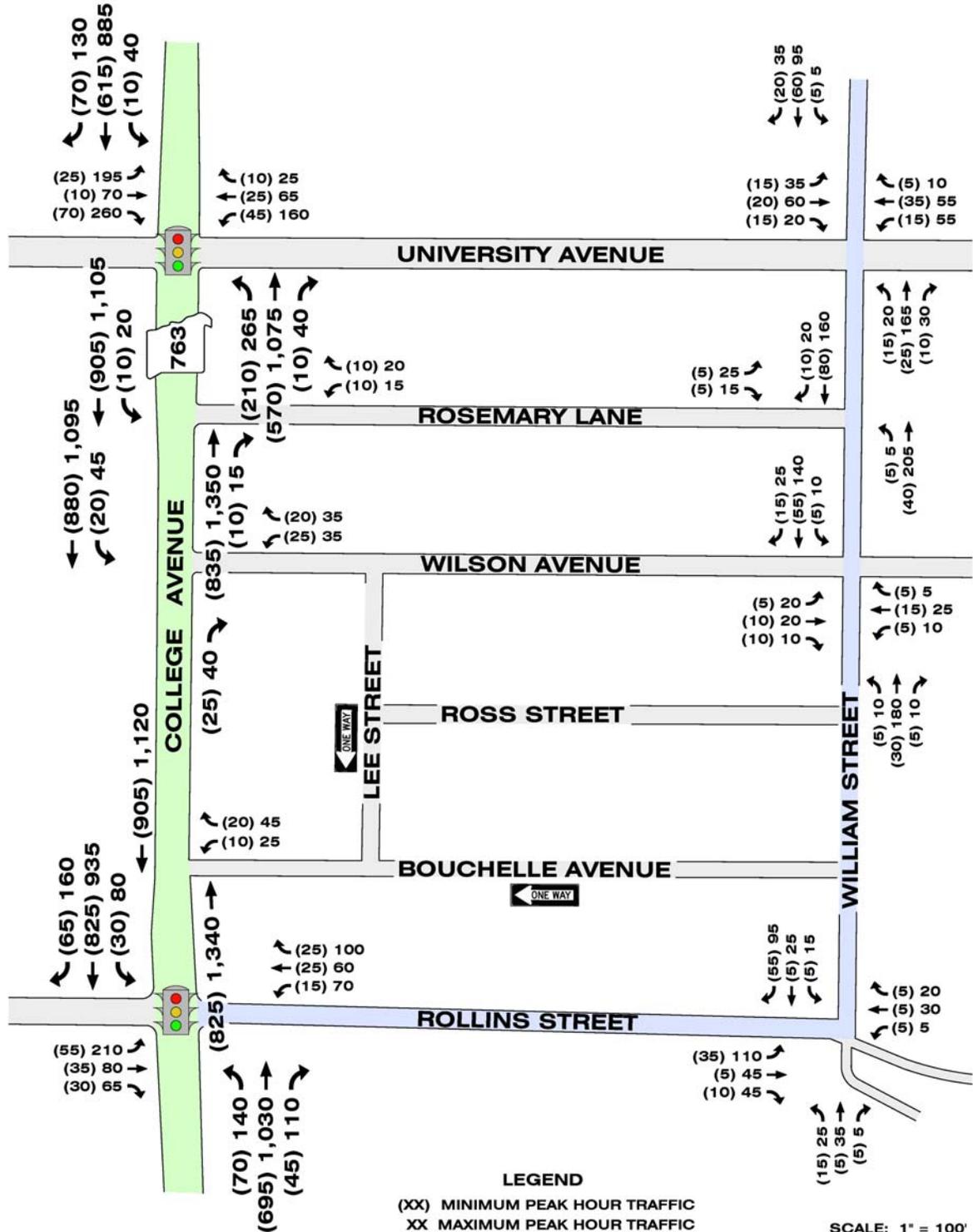


College Avenue Safety Enhancement (CASE) Project
Making the CASE for a Safer College Avenue



Vehicle Traffic – Existing Conditions

April 2013



College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Pedestrian Traffic – Existing Conditions

September 2009



LEGEND

- MAJOR CROSSING PATTERN
- MINOR CROSSING PATTERN
- AVERAGE PEAK HOUR PEDESTRIANS

SCALE: 1" = 100'

College Avenue Safety Enhancement Project

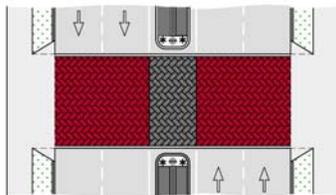
Making the CASE for a Safer College Avenue

What Will The Project Look Like?

Visual Opportunities for the CASE Project



Consistent Crosswalk Pattern & Color (College & Ashland shown)



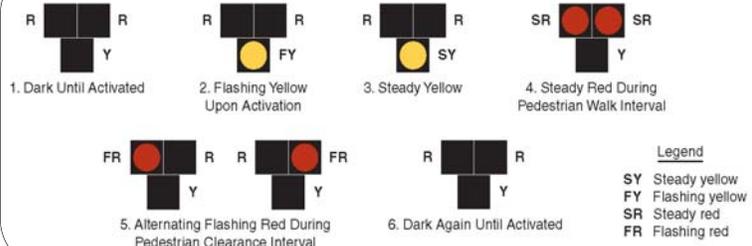
Wider than typical w/ ped haven in center lane



HAWK Pedestrian Signals
High-Intensity Activated CrossWalk Beacon



Figure 4F-3. Sequence for a Pedestrian Hybrid Beacon



Median / Vertical Element

What is a "Vertical Element"?

- ◆ A feature in the center-lane median
- ◆ 3-5 feet high; allow visibility across roadway
- ◆ Could have various "looks" - concrete, fence, landscape/hardscape
- ◆ Special attention to context of aesthetics

What is the purpose of a "Vertical Element"?

- ◆ Channelize pedestrian traffic to controlled crossings
- ◆ Reduce vehicle/pedestrian conflicts with left-turns
- ◆ IMPROVE SAFETY FOR PEDESTRIANS AND VEHICLES

YOU TELL US...what should a "Vertical Element" look like?

Potential Identities / "Look"



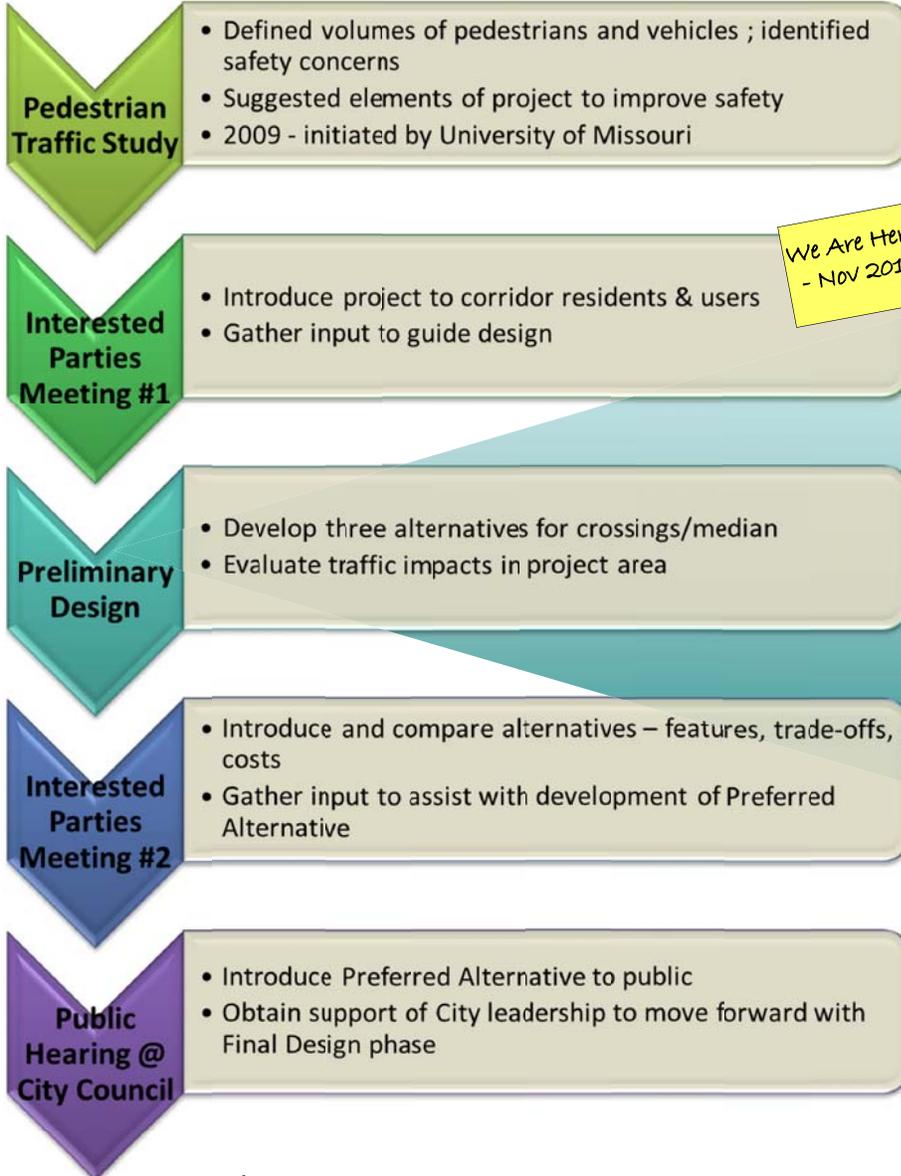
College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Project Process

What are the next steps?



We Are Here - Nov 2013

ALTERNATIVES ANALYSIS

- Three Alternatives
- Aesthetic Opportunities
- Pedestrian Shift Evaluation
- Cost of Construction

TRAFFIC IMPACT ANALYSIS

- Displaced Left Turns
- East Campus Traffic Patterns
- One-Way / Two-Way Streets
- Recommend Future Options

Reaching consensus in a timely manner will help this much-needed safety upgrade become a reality sooner!



College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Open House Sign In November 19, 2013

| NAME | ADDRESS | EMAIL | PHONE |
|---------------------|---------------------|-----------------------------|--------------|
| Barbara Buffaloe | 717 Hilltop Dr | locher.buffaloe@gmail | 289 2781 |
| Brent Gardner | 215 W Stewart | brentgaremax.net | 489 1900 |
| Mikel Skov | 407 W. Blvd.S. | — | — |
| John Clark | 403 N 9th | jgclark@mcshs.com | 442-7077 |
| Rachel Bretnus | 703 Hilltop Dr. | bretnusr@gmail.com | 875-4295 |
| Elizabeth Peters | 305 Mc Nabs | Bo Peters @ AOL.com. | |
| R. Shanker | Cliff Dr | | 875 2035 |
| Michael Goldschmidt | 507 High St | goldschmidt@m@missouri.edu | 489-7126 |
| Janet Gordon | 306 Maple Hill | JL Gordon @ gmail.com | 823-5503 |
| Christiane Quinn | 719 W Broadway | CHRISMO@juno.com | 875-1183 |
| Arlan Gaus | 514 Hartsidge Drive | STERMINANLM@Email.com | 289-8888 |
| Mike Schupp | | Michael.schupp@modot.mo.gov | 660-281-1295 |

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Open House Sign In

November 19, 2013

| NAME | ADDRESS | EMAIL | PHONE |
|-------------------|-----------------------------|--------------------------|--------------|
| Bobby Hofman | 520 S. College Ave. | rshrrc@mail.missouri.edu | 714-520-3500 |
| Lauren Rutherford | 704 S. College Ave. | UMR638@mail.missouri.edu | 918-857-2293 |
| Deb Stridd | 606 S College Ave | stridd@missouri.edu | 573-356-4097 |
| Marc Stridd | 606 S College Ave | stridm@missouri.edu | 573-356-4902 |
| Steve Sultze | 3410 Chatham Dr | | 573-552-2920 |
| Kathy Love | 1623 University | lovekat68@gmail.com | 573-875-7918 |
| dee raghun | 1511 Ross St | deepolvo@hotmail.com | 573 823 5840 |
| betsy raghu | " " " | betryraghu@hotmail.com | 573 823 5841 |
| Karlan Seville | MU | sevilleka@missouri.edu | 573-882-3290 |
| Pat Fowler | 606 N Sixth St | fowlerpat@gmail.com | 573.256.6841 |
| Kate Akano | 507 1411 Anthony | akersk@missouri.edu | |
| Lisa Goldschmidt | 507 High St | lisa@pednet.org | 573-891-1635 |

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Open House Sign In November 19, 2013

| NAME | ADDRESS | EMAIL | PHONE |
|------------------|---------------------|---------------------------|--------------|
| Don Love | 1673 University | dmachavel@gmail.com | |
| Rachel Bacon | 701 E Broadway | r.bacon@gocolumbia.mo.edu | 817-5006 |
| BILL TOLSON | 4505 W R K | BTOLSONBATA@GMAIL.COM | 864-2973 |
| KEN KVAM | 2604 Luan Ct | | 446-4409 |
| Wendy Kvam | 2604 Luan Ct | Wendykvam@gmail.com | 446-4409 |
| Jewett Hamner | 1844 Cliff DR | jewett.hamner@yahoo.com | 442-5827 |
| BRIAN FREEZE | 101 W. BRANDON | | |
| Richard Hoppe | 1007 Bluffdale | wardle@gocolumbia.mo | 424-9668 |
| Steve Hanson | 2904 Lyndon DR | Steven.hanson.1@gmail.com | 356-7483 |
| Michael Laughlin | 6725 N. Westview Dr | laughlinmj@missouri.edu | 573-884-7809 |
| ROSIE GERDING | 101 S. Fifth St #1 | rosie@gkccpas.com | 573-449-1599 |
| JOE GERDING | 101 S. Fifth #1 | Joe@gkccpas.com | 573-449-1599 |

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



Open House Sign In

November 19, 2013

| NAME | ADDRESS | EMAIL | PHONE |
|--------------------|--|--------------------------|-----------------------------|
| ERIC WARREN | 2509 KISTAVIA BLVD COLUMBIA, MO 65203 | CEO@agbrazil.com | 573-256-9900 |
| Joyce Snow | 711 Morningside Dr Columbia MO 65201 | JoyceSnow@aol.com | 573-443-8055 |
| Jonathan Fenton | 1114 Locust Columbia MO 65203 | JPF@cf@mail.missouri.edu | 214-707-4182 |
| Heather Hougan | 3202 East Brainerd | hthoug@weather.hung.org | 317-745-710 |
| RENICE WARREN | | | |
| Mimi Cann | | | |
| Anne Case-Halferty | 1508 Ross Street | annecase@aol.com | (573)489-1053 |
| Sheryl Price | 511 Parkade Blvd. Columbia MO 65202 | emprice@mkcsi.com | 499-4846(H) 673)239-2494 |
| Sue Smith | 1712 Cliffe Dr 65201 | | 573-817-2243 |
| CONNOR HICKOX | 1407 Bass Ave | connorhickox@yahoo.com | |
| Rachel Ruden | 103 Longfellow Ln | rachel@rublen.davis.org | 573-268-8770 |
| JOHN STANFIELD | 1852 CLIFF DRIVE COLUMBIA MO | stanstfield@missouri.edu | 573 442-9412 |

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



COMMENT FORM

The City of Columbia values your input! Please offer your thoughts about the CASE Project's goals, concerns you might have about the project, and the appearance of the project once complete. **Please provide us your contact information below to receive CASE Project updates.** We will be providing future updates about this project by email, including the announcement of the 2nd Interested Parties Meeting in early 2014. Please indicate below if you wish to receive hard copy mailings only.

As the project progresses, information will be posted to the project website at the following link:

www.MakeTheCASEProject.com

If you prefer to comment online, this form will be available on the project website. Send comments via email at PubW@GoColumbiaMo.com, or in regular mail to the attention of Mr. Cliff Jarvis, P.E., at:

City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Alan Gaus

ADDRESS: 514 Huntledge Drive

CITY: Columbia STATE: Mo ZIP: 65201

Preferred Email Address: stamminalan@gmail.com (encouraged) Please do not contact me via email

Preferred Telephone #: 513 289-8888 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

East Campus Investment Property owner

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio
- Email media release Other (explain in comments)

Comments: looks OK, would like to see U TURNS at Both ends of the Barrier. This would really help with Traffic Flow at the Major Left Turn Intersections

www.MakeTheCASEProject.com

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

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- Safety of those crossing College Avenue Comments: _____
- Appearance of constructed improvements _____
- Loss of left turn access _____
- Cost of improvements vs. benefit _____
- Changing pedestrian behavior _____
- Other (*explain in comments*) _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: _____

Please provide any other comments you have about the CASE Project:

Comments: _____

On behalf of the City of Columbia and project design team, thank you for attending today’s Interested Parties Meeting!

COMMENT FORM

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- Safety of those crossing College Avenue Comments: _____
- Appearance of constructed improvements _____
- Loss of left turn access _____
- Cost of improvements vs. benefit _____
- Changing pedestrian behavior _____
- Other (explain in comments) _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: _____

Please provide any other comments you have about the CASE Project:

Comments: *Please consider an educational component directed at cyclists utilizing the crosswalk. Many cyclists will be on the sidewalk (should be on the street if riding in a safe manner). Consider a sign that states "Cyclists must dismount and walk."*

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!



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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Elizabeth Peters

ADDRESS: 305 McNab Dr.

CITY: Columbia STATE: MO ZIP: 65201

Preferred Email Address: Bo Peters @ AOL.com (encouraged) Please do not contact me via email

Preferred Telephone #: _____ (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

Postcard invitation Newspaper/Radio Comments: _____

Email media release Other (explain in comments) Neighborhood email

COMMENT FORM

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- Safety of those crossing College Avenue
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

①
 Comments: Need to assure safety of students
hopefully channelling them will
work.

② Need to address access to east
campus. Williams will not be
up for the volume & ↑ traffic on
Univ Ave will decrease safety in
the neighborhood.

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: A 3 foot wall & attractive railing would look
good. Would like some trees incorporated into
the design and other landscape elements

Please provide any other comments you have about the CASE Project:

Comments:

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!



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www.MakeTheCASEProject.com

If you prefer to comment online, this form will be available on the project website. Send comments via email at PubW@GoColumbiaMo.com, or in regular mail to the attention of Mr. Cliff Jarvis, P.E., at:

City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: RICK SHANKER

ADDRESS: 1829 CLIFF DRIVE

CITY: COLUMBIA STATE: MO ZIP: 65201

Preferred Email Address: _____ (encouraged) Please do not contact me via email

Preferred Telephone #: 573-875-2035 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

Postcard invitation Newspaper/Radio Comments: _____

Email media release Other (explain in comments) _____

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

One of the CASE Project displays listed several items noted as "Known Concerns". Please comment on the concern that you believe most critical to be addressed by this project. If you find it difficult to select only one, please note which is the highest priority in the comments:

- Safety of those crossing College Avenue → Comments: There is always safety concerns when crossing streets. I truly believe that this is a proposed (good intentioned) solution to a problem that ~~has been~~ ~~been~~ does not exist had it not been ~~identified~~ identified
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

as a problem by yet another

Comments:

study. If you have concerns about people crossing streets perhaps you should suggest that as a SAT question. * I am against spending a dime or any more time on this. Will there be an accident there ~~probably~~ probably yes, will people paint graffiti?

Please provide any other comments you have about the CASE Project:

on any barrier, ~~prob~~ probably yes, will people jump this barrier yes, will people get hurt crossing and falling over the barrier yes, will they sue you because of their uncoordination ~~and~~ yes, we do not need a barrier, a traffic

On behalf of the City of Columbia and project design team, thank

you for attending today's Interested Parties Meeting!

flowing device or any other obstruction.

*S.A.T. college entrance question - can you cross a street safely



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www.MakeTheCASEProject.com

If you prefer to comment online, this form will be available on the project website. Send comments via email at PubW@GoColumbiaMo.com, or in regular mail to the attention of Mr. Cliff Jarvis, P.E., at:

City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: RICK SHANICO

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

Preferred Email Address: _____ (encouraged) Please do not contact me via email

Preferred Telephone #: 8752035 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio Comments: _____
- Email media release Other (explain in comments) _____

PART II

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

To council —

One of the CASE Project displays listed several items noted as "Known Concerns". Please comment on the concern that you believe most critical to be addressed by this project. If you find it difficult to select only one, please note which is the highest priority in the comments:

- Safety of those crossing College Avenue
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: I was astonished to learn tonight that we (the city) spend (perhaps with UMC) \$100,000 to study the traffic on college!

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

→ Here's an idea on ~~how~~ this project — abandon it! That would look attractive and be very appropriate!

Please provide any other comments you have about the CASE Project:

Comments:

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue



COMMENT FORM

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Kate Akers

ADDRESS: 1411 Anthony St

CITY: Columbia STATE: Mo ZIP: 65201

Preferred Email Address: akersk@missouri.edu (encouraged) Please do not contact me via email

Preferred Telephone #: 573-882-4509 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party
- Lee School parent

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio Comments:
- Email media release Other (explain in comments)

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

One of the CASE Project displays listed several items noted as "Known Concerns". Please comment on the concern that you believe most critical to be addressed by this project. If you find it difficult to select only one, please note which is the highest priority in the comments:

- Safety of those crossing College Avenue
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: I think safety measures should be extended down to Locust St to facilitate students of Lee Elementary crossing to/from East Campus. A pedestrian light ^{active} at school start & end times would help.

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: Not just concrete barriers! Attractive, preferably w/ landscape plantings, but must be sufficient to prevent drunk students from jumping it at night, etc.

Please provide any other comments you have about the CASE Project:

① **Comments:** I am very concerned about additional traffic on Anthony, as it is already narrow & overparked.

② Snow removal from east side of college must be considered. Plows pile snow on the sidewalks making them totally impassable. So if students walk down Rosemary to College, but can't cross there and can't walk the sidewalk to get to the crossing point, what do they do?

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

College Avenue Safety Enhancement Project

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Pat Fowler

ADDRESS: 606 N Sixth St

CITY: Columbia STATE: MO ZIP: 65201

Preferred Email Address: fowlerpatj@gmail.com (encouraged) Please do not contact me via email

Preferred Telephone #: 573.256.6841 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party DLC member

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio Comments: And conversation among
- Email media release Other (explain in comments) neighbourhood leaders.

COMMENT FORM

College Avenue Safety Enhancement Project

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- Safety of those crossing College Avenue
 - Appearance of constructed improvements
 - Loss of left turn access
 - Cost of improvements vs. benefit
 - Changing pedestrian behavior
 - Other (explain in comments)
- Comments: The University is very adept at social norming campaigns re drugs, alcohol, tobacco. They have an off campus coordinator who could implement the social norming programming as part of their regular duties, and focus on pedestrian safety and common courtesy to existing residents. The long term effect on year round residents needs to be taken into consideration. They are more than equal partners: should get more attention and input.*

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: Please see the visuals in the 2010 Charette Report that contains the community consensus after hours of involvement and input. Portions of that must be feasible. Slow the traffic down and it will be easier to maintain a green/growth median. ~~This~~ should be one of the more beautiful corridors of travel in Columbia and no longer needs to be a state highway.

Please provide any other comments you have about the CASE Project:

Comments: there are always unintended consequences. Please implement the neighborhood hang tag program first and see how the unintended consequences from that ^{implementation} develop. Then implement safety improvements that beautify the area - including dropping College from a state road to a local arterial with a lower speed limit.

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

*Thank you for hosting this meeting!
Best wishes.*



COMMENT FORM

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Onis Ruff

ADDRESS: 1508 Ross Street — HOMEOWNER, NOT RENTER

CITY: Columbia

STATE: MO

ZIP: 65201

Preferred Email Address: ibruff101@aol.com (encouraged) Please do not contact me via email

Preferred Telephone #: (573) 489-9040 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
 Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio Comments: _____
 Email media release Other (explain in comments) _____

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

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- Safety of those crossing College Avenue
 - Appearance of constructed improvements
 - Loss of left turn access
 - Cost of improvements vs. benefit
 - Changing pedestrian behavior
 - Other (explain in comments)
- Comments:* Traffic is already a significant problem on East campus. Restricting left turn access will only make it worse. The Citizens of Columbia & EC residents who pay for services via taxes are being reminded by a student-centric solution, NOT a neighborhood centric solution.

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: ECN Area is a historical area and MU is a registered botanical garden. A vertical barrier has the potential to be ugly and an eyesore. Functionality is important, but do not overcorrect the problem — try crosswalks & ped. lights first. Those will greatly impact the problem — any other changes may cause more problems than they solve. WHAT ARE OUR OTHER OPTIONS?

Please provide any other comments you have about the CASE Project: ←

Comments: Don't forget the residents — so many decisions are being made with only student outcomes in mind. There are neighborhood and resident outcomes that must also be weighed — including traffic flow, emergency responders, visual appeal, and neighborhood/home value & appearance.

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

College Avenue Safety Enhancement Project

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: STEVEN HANSON

ADDRESS: 2904 LYNNWOOD DR

CITY: COLUMBIA STATE: MO ZIP: 65203

Preferred Email Address: Steven.hanson.1@gmail.com (encouraged) Please do not contact me via email

Preferred Telephone #: _____ (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

Postcard invitation Newspaper/Radio Comments: Chair, PTAC

Email media release Other (explain in comments) _____

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

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- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: #1 - Jaywalking has to stop.
 #2 - Bike lanes **SORELY** needed.
 #3 - Cut out left turns, use U-turns
~~#4~~ #4 Median may serve as an appearance improvement

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: This must be addressed, but should not try to take so much prec but needs to be used appropriately. We can't use a pedestrian obstruction as part of the beautification. Anything other than a curb height median is too ugly.

Please provide any other comments you have about the CASE Project:

Comments: I recommend a cascading plan, whereby CPD, if not MU PD, enforce laws. If this fails, than MU needs to install metal fence between MU sidewalk and College Avenue. If necessary, then crosswalks should be added. I recommend eliminating center turn lane, and adding bike lanes. Median should either not exist or be a simple planted median not meant to obstruct traffic. Place U-turn in at intersections.

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Jane Smith
ADDRESS: 1712 Cliff Dr.
CITY: Columbia STATE: MO ZIP: 65201
Preferred Email Address: _____ (encouraged) Please do not contact me via email
Preferred Telephone #: 573-817-2243 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
 Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio
 Email media release Other (explain in comments)

Comments: Ian Thomas knew of my concern and gave me a "heads up" telephone call

COMMENT FORM

College Avenue Safety Enhancement Project

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- Safety of those crossing College Avenue
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: *loss of left-turn will drastically affect traffic patterns in C. Campus. should be figured out BEFORE action or plans decided for College. Prefer a minimal attempt, first on College - Pedestrian crosswalks & lights plus traffic calming, improved signage at University & Rollins - See how that goes.*

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: *I suggest - if it has to be and I'm negative about it - that it be landscaped - not concrete, etc.*

Please provide any other comments you have about the CASE Project:

Comments: *If there is any change to College it should be far-sighted - I would suggest making it two-lane with left turn lanes - ~~but~~ but lanes on either side reduce speed limit and limit thru truck traffic - it will push all the heavy construction trucks down to 63 South - I can dream, right? But it is one of the main entrances to University of MO campus - it could be nice! I suggest about bike lanes because currently cyclists - many - ride on sidewalks parallel to College - a hazard for pedestrians.*

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

College Avenue Safety Enhancement Project

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Anne Case-Halferty

ADDRESS: 1508 Ross Street

CITY: Columbia STATE: MO ZIP: 65201

Preferred Email Address: annecase@aol.com (encouraged) Please do not contact me via email

Preferred Telephone #: 573-489-1053 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

- Postcard invitation Newspaper/Radio
- Email media release Other (explain in comments)

Comments: I cross College Ave EVERYDAY

- on the way to work on campus. I want
- and NEED a crosswalk!
- Cross walk proposals look great & I like them.
 - Traffic lights need to be improved @ University intersection to allow for easier left turns to reduce existing congestion.

www.MakeTheCASEProject.com

Please work in connection w/ parking amelioration efforts to help develop a Master Plan that solves more problems than it creates. ★

COMMENT FORM

College Avenue Safety Enhancement Project

Making the CASE for a Safer College Avenue

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- Safety of those crossing College Avenue
- Appearance of constructed improvements
- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: Of course safety is a major concern.
But, safety aside, restricting the left turn
access on certain streets is going to cause
significant congestion in an area of narrow
streets, poor light signals, and overwhelmed
parking.

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: The most visually appealing option is a landscape barrier —
and I know that ECNA residents, and also student/community
groups, would be willing to maintain it. In lieu of a visually
appealing option, a low-level (low to the ground is essential)
barrier would be key. Given the beauty of campus & the historic
neighborhood of East Campus, any reflective barriers or concrete
options would diminish value & appeal of the neighborhood.
 Please provide any other comments you have about the CASE Project:

Comments: Crosswalks are necessary — and welcome. Any one advocating
for no change is not recognizing the need for a crosswalk (or two).
The main issue is a vertical barrier that blocks the entire
length of the street — its hugely problematic and will only
exacerbate existing traffic/parking conditions. Any traffic

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

Changes MUST also take into consideration the need for parking being addressed.

College Avenue Safety Enhancement Project

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If you prefer to comment online, this form will be available on the project website. Send comments via email at PubW@GoColumbiaMo.com, or in regular mail to the attention of Mr. Cliff Jarvis, P.E., at:

City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Brent Gardner

ADDRESS: 315 W Stewart

CITY: Columbia STATE: Mo ZIP: 65203

Preferred Email Address: _____ (encouraged) Please do not contact me via email

Preferred Telephone #: _____ (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

Postcard invitation Newspaper/Radio Comments: _____

Email media release Other (explain in comments) _____

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- 2 Safety of those crossing College Avenue Comments: _____
- 1 Appearance of constructed improvements _____
- 3 Loss of left turn access _____
- 4 Cost of improvements vs. benefit _____
- 5 Changing pedestrian behavior _____
- Other (explain in comments) _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: This road is not a highway - reduce # of lanes to slow traffic. Landscape & beautify medians solving 2 problems at once.

Please provide any other comments you have about the CASE Project:

Comments: _____

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Deb Strid

ADDRESS: 606 S College Ave

CITY: Columbia STATE: MO ZIP: 65201

Preferred Email Address: stridd@missouriedu (encouraged) Please do not contact me via email

Preferred Telephone #: 573-356-4097 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
- Business owner in project area Use route regularly Other Interested party

How did you find out about today's Interested Parties Meeting?

- Did not receive Postcard invitation Newspaper/Radio Comments: _____
- Email media release Other (explain in comments) East Campus sent email

COMMENT FORM

College Avenue Safety Enhancement Project

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Comments: *Loss of left turn pushes traffic onto three streets in East Campus; University Avenue, Williams and Rollins. Already narrow streets with added traffic poses accidents to increase there. Burden of redirected traffic rests in East Campus.*

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: *Hawk lights are great without the barricade.*

Please provide any other comments you have about the CASE Project:

Comments: *With the barricade, There is still the same number of residents in East Campus entering & exiting College. Need access to turn south - Rollins does not have left turn lane or signal to turn south. University Ave has short turn lane and flashing yellow turn only. Bouchelle is not passable in some vehicles. There is no U-turn*

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

For anyone traveling south to get back to Bouchelle, Wilson, Rosemaria or any of the drives in between.

Need turn lanes and lights and a U-turn!



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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: BRIAN TREECE

ADDRESS: 101 W. BRANDON

CITY: COLUMBIA, STATE: Mo ZIP: 65203

Preferred Email Address: treece@treecephillips.com (encouraged) Please do not contact me via email

Preferred Telephone #: _____ (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one **that most closely describes you:**

- Resident in project area
 University of MO student
 MU Affiliated, but not student
 Business owner in project area
 Use route regularly
 Other Interested party

How did you find out about today's Interested Parties Meeting?

Postcard invitation
 Newspaper/Radio
 _____ Comments: _____
 Email media release
 Other (explain in comments) _____

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- Cost of improvements vs. benefit
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- Other (explain in comments)

Comments: Pedestrian safety crossings can be accomplished without medians. The city should evaluate the loss of left turn lanes and its impact to East Campus neighbors. Finally, the appearance of any improvement should be a key component of design & engineering. See below

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: Additional trees and landscaped medians would achieve the desired pedestrian safety crossing concerns. A concrete median of any height or type would not be an attribute to this gateway to campus, hospital, fraternity row, and downtown.

Please provide any other comments you have about the CASE Project:

Comments: Students crossing safely is only a problem a few times per day, nine months a year. But altering traffic patterns through a raised median & right in/right outs is a permanent solution that does not serve property owners, home owners, and the collegiate feel that should be preserved in this area.

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

College Avenue Safety Enhancement Project

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Marc Strid

ADDRESS: 606 S. College Ave.

CITY: Columbia STATE: MO ZIP: 65201

Preferred Email Address: stridm@missouri.edu (encouraged) Please do not contact me via email

Preferred Telephone #: 573-446-3004 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you:

- Resident in project area University of MO student MU Affiliated, but not student
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How did you find out about today's Interested Parties Meeting?

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- Email media release Other (explain in comments) appreciate the opportunity to express our views regarding this project.

www.MakeTheCASEProject.com

COMMENT FORM

College Avenue Safety Enhancement Project

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- Loss of left turn access
- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: cross walks would be great improvement against verticle barrier - but if it becomes part of the plan - Black iron fence over stamped will have grave impact on East campus. Concrete

why not try crosswalks first with enforceemē.

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: If we are going to have to live with a verticle barrier it needs to be esthetically designed i.e. black wrought iron look over stamped concrete.

Please provide any other comments you have about the CASE Project:

Comments: I believe that before any plan is accepted, a plan for rerouting traffic needs to be considered.

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: BILL TOLSON

ADDRESS: 4505 W. RT K (WORK @ 520 COLLEGE)

CITY: COL STATE: MO ZIP: 65203

Preferred Email Address: BTOALSONBETA@GMAIL.COM (encouraged) Please do not contact me via email

Preferred Telephone #: _____ (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

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- Safety of those crossing College Avenue Comments: _____
- Appearance of constructed improvements FENCE ON TOP OF BARRIER WOULD BE UNSIGHTLY
- Loss of left turn access #1. UNINTENDED CONSEQUENCES ON SIDE ROADS ^{ROSEMARY WILSON}
- Cost of improvements vs. benefit _____
- Changing pedestrian behavior _____
- Other (explain in comments) _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: BARRIER WILL NOT LOOK GOOD. MARKED CROSS WALKS WITHOUT BARRIER ~~WAS~~ COULD BE AN IMPROVEMENT AND MIGHT HELP FUNNEL PCD'S.

Please provide any other comments you have about the CASE Project:

Comments: NOT A GOOD USE OR GOVT # OF ACCIDENTS DON'T JUSTIFY ANY CHANGE

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: JOHN STANSFIELD

ADDRESS: 1852 CLIFF DRIVE

CITY: COLUMBIA STATE: MO ZIP: 65201

Preferred Email Address: STANSFIELDJJ@MISSOURI.EDU (encouraged) Please do not contact me via email

Preferred Telephone #: 573 442 9412 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one that most closely describes you: *i'm both*

- Resident in project area University of MO student MU Affiliated, but not student
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- Cost of improvements vs. benefit
- Changing pedestrian behavior
- Other (explain in comments)

Comments: _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: *You lost all credibility with the horrible ugly and poorly designed forest of sticks on Ash and Windsor streets on College*
Let's not have any poorly designed innovations on College between University and Rollins

Please provide any other comments you have about the CASE Project:

Comments: *This is a solution in search of a problem which will cause more unintended problems.*

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!

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- Loss of left turn access _____
- Cost of improvements vs. benefit _____
- Changing pedestrian behavior _____
- Other (explain in comments) _____

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: Tunnel under Rollins + College (if the improvements increase ped xing @ Rollins)

Trees interspersed with the barrier, incorporated into the barrier
Update with Google so ~~Google~~ GPS doesn't route people incorrectly

Please provide any other comments you have about the CASE Project:

Comments: We need a chainlink fence! (Just kidding)

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City of Columbia – Public Works Department; 701 E Broadway; PO Box 6015; Columbia, MO 65205

NAME: Joyce Snow

ADDRESS: 711 Morningside DR.

CITY: Columbia STATE: Mo ZIP: 65201

Preferred Email Address: Jjoyce Snow @ AOL.com (encouraged) Please do not contact me via email

Preferred Telephone #: 573-443-8055 (optional)

Tell us about yourself and your interest in the CASE Project. The information you provide will help the design team better understand the comments received and how the College Avenue corridor is used.

Check the one **that most closely describes you:**

- Resident in project area University of MO student MU Affiliated, but not student
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- Postcard invitation Newspaper/Radio Comments: _____
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| | | |
|-------------------------------------|---|------------------------------|
| <input type="checkbox"/> | Safety of those crossing College Avenue | Comments: _____ |
| <input type="checkbox"/> | Appearance of constructed improvements | <i>Very important, as an</i> |
| <input checked="" type="checkbox"/> | Loss of left turn access | <i>issue,</i> |
| <input type="checkbox"/> | Cost of improvements vs. benefit | _____ |
| <input type="checkbox"/> | Changing pedestrian behavior | _____ |
| <input type="checkbox"/> | Other (explain in comments) | _____ |

There is a strong desire to have the project improvements look attractive and appropriate to the area along College Avenue. Please give us your input about how the elements of the CASE Project might achieve this goal.

Comments: *I am opposed to any barriers to deter left hand turns. I have lived in the same house in East Campus for 47 years, and to get home I left turn on Wilson. Why should we be inconvenienced because students do not cross at crossings already in existence.*

Please provide any other comments you have about the CASE Project:

Comments: *What effect would this have on the whole East Campus? Has any study been done? University has bricks, Rollins has 70,000 students jay walking. Is there a jay walking ordinance in the town? If so, they should receive a fine!*

On behalf of the City of Columbia and project design team, thank you for attending today's Interested Parties Meeting!