

Source: Public Works

*Joh*

Agenda Item No: REP 2-13

To: City Council  
From: City Manager and Staff

*M*

Council Meeting Date: Jan 7, 2013

Re: 10th & Rogers Crosswalk Pedestrian Actuated Flashing Beacons

**EXECUTIVE SUMMARY:**

Staff has prepared for Council consideration a report regarding proposed pedestrian flashing beacons near the intersection of 10th Street & Rogers Street.

**DISCUSSION:**

Columbia College has requested that the City pursue pedestrian actuated flashing yellow beacons at the intersection of 10th Street and Rogers Street (see attached letter). This is a tee-style intersection with a pedestrian haven in the middle of Rogers Street, and an existing pedestrian crosswalk on the west side of the intersection. Based on an evaluation completed last year, some modifications have been made nearby to help improve pedestrian safety.

A year ago, staff estimated the cost of pedestrian actuated flashing yellow beacons for this location to be approximately \$30,000. The technology was relatively new with limited competition at the time. There have been some improvements in the technology and there may be some cost savings due to additional competition in the industry; however, the costs will most likely approach \$30,000. Columbia College has offered to pay half, or \$15,000, towards the installation of the devices.

Staff believes that traffic safety funds should be used to match the College's contribution, and that pedestrian actuated rapid rectangular flashing beacons should be installed. This style of pedestrian activated system is similar to the devices at Old Hwy 63 and Walnut Street. While the existing lighting at the intersection appears adequate, the location will also be assessed for lighting design standards and some modifications could be made to enhance nighttime visibility.

Bids for the devices will need to be obtained, and City forces will install. City staff will meet with Columbia College staff to decide on a mutually acceptable design. If Council directs staff to proceed, the details can be worked out, and the modifications will be made, to enhance pedestrian mobility and safety at the intersection.

**FISCAL IMPACT:**

Staff estimates the cost at \$30,000. Columbia College has agreed to pay \$15,000, and the City's share of \$15,000 will be transferred from Traffic Safety funds. Street Operations will install the devices.

**VISION IMPACT:**

<http://www.gocolumbiamo.com/Council/Meetings/visionimpact.php>

Columbia will enjoy a safe, interconnected, non motorized transportation network. It will be culturally supported by the citizens as it will encourage social interaction and healthy lifestyles. The roadway, sidewalk, public transit, and trail systems will all tie together into an effective integrated transportation network.

**SUGGESTED COUNCIL ACTIONS:**

If Council agrees with staff's recommendation to install pedestrian actuated rapid rectangular flashing beacons, staff should be directed to transfer funds from the Traffic Safety project account, and appropriate \$15,000 from Columbia College.

FISCAL and VISION NOTES:					
City Fiscal Impact Enter all that apply		Program Impact		Mandates	
City's current net FY cost	\$0.00	New Program/ Agency?	No	Federal or State mandated?	No
Amount of funds already appropriated	\$0.00	Duplicates/Epands an existing program?	No	Vision Implementation impact	
Amount of budget amendment needed	\$15,000.00	Fiscal Impact on any local political subdivision?	No	Enter all that apply: Refer to Web site	
Estimated 2 year net costs:		Resources Required		Vision Impact?	Yes
One Time	\$15,000.00	Requires add'l FTE Personnel?	No	Primary Vision, Strategy and/or Goal Item #	13.1
Operating/ Ongoing	\$4,000.00	Requires add'l facilities?	No	Secondary Vision, Strategy and/or Goal Item #	13.2, 13.3
		Requires add'l capital equipment?	No	Fiscal year implementation Task #	



PROPOSED  
RAPID  
RECTANGULAR  
FLASHING  
BEACON

ISLAND

ROGERS STREET

TENTH STREET



City of Columbia, Missouri  
Department of Public Works

**TENTH & ROGERS  
PROPOSED  
RAPID RECTANGULAR FLASHING BEACON**

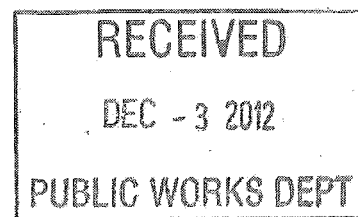
Scale: None

Dwn: C.M.V.

Date: 12/20/2012



1001 Rogers Street  
Columbia, MO 65216  
(573) 875-8700  
www.ccis.edu



November 28, 2012

Mr. Mike Matthes, City Manager  
City of Columbia  
P.O. Box 6015  
Columbia, MO 65205-6015

Re: Crosswalks near 10<sup>th</sup> and Rogers Streets

Dear Mr. Matthes:

As you know from previous correspondence and discussions, Columbia College has had serious concerns about the safety of the pedestrian crosswalk across Rogers, at the intersection of 10<sup>th</sup>. After receipt of your letter of March 21, and at your suggestion, we removed a row of mature pear trees that bordered Rogers and caused a visibility issue.

Our students, and thereby the College, are still concerned about safety and would like to investigate further options. In your letter you mentioned the possibility of installing a "Rapid Rectangular Flashing Beacon" unit at this location. You indicated the City was pursuing a demonstration unit, but since we have heard nothing further, we assume this did not pan out.

You also said that such a device would cost around \$30,000, but that the City did not have funding in place to install one. Although it seems to us that public safety, on a public street, should be the responsibility of the City to ensure, we are willing to split the cost of this device. If the City can find \$15,000 for something we feel will greatly enhance public safety, Columbia College will pay the other half.

We are also open to any other suggestions. I look forward to your response and truly hope for the safety of our campus community we can work something out. Thanks for your attention to this matter.

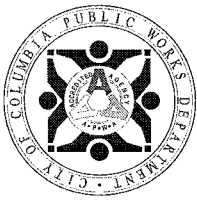
Sincerely,



Bob Hutton

Executive Director of Administrative Services

Cc: Mr. John Glascock, Director of Public Works  
Mr. Bob McDavid, Mayor



## CITY OF COLUMBIA, MISSOURI

PUBLIC WORKS DEPARTMENT

### INTER-OFFICE MEMO

**TO:** Scott Bitterman  
**FROM:** Richard Stone  
**DATE:** February 3, 2012  
**SUBJECT:** 10<sup>th</sup> & Rogers - Rangeline Street crosswalk evaluations

#### Summary:

Per direction, attached is a summary of the findings regarding a Columbia College request to review crosswalks at 10<sup>th</sup> Street & Rogers Street and crosswalks along Rangeline Street.

#### General information

In late October 2011, City traffic staff received a request from a student of Columbia College to review a crosswalk location near Southwell Gymnasium. Staff reviewed the location in late October and early November. Prior to conclusion of action for this review, the City received a letter on November 16, 2011 from Columbia College asking to review crosswalks at the intersection of 10<sup>th</sup> & Rogers and crosswalks along Rangeline. Staff was able to count the 10<sup>th</sup> & Rogers intersection prior to winter break and began the process of analyzing the information in December 2011.

There were two Columbia Police Department (CPD) reported pedestrian related collisions at 10<sup>th</sup> & Rogers from 01/01/08 to 01/01/12. During the analysis process on January 19, 2012, information from Columbia College indicated that there were two additional pedestrian collisions in January, 2012 (one unreported to CPD, internal to Columbia College staff).

Given this new information, traffic staff requested that CPD provide collision information about the incidents to see if the new information would shed light on changing conditions (if any). Generally the incidents appear to be consistent with inattention on the part of drivers.

Data and information has been analyzed. Following are recommended modifications:

#### 10th & Rogers recommendations

1. Remove the Bradford Pears along Rogers Street and at least the first two trees south of Rogers along 10th Street (or all of them preferably depending on desired motif). Replace with a more appropriate tree species that will provide a pedestrian centric visual impact but not impact sight lines as much. The City Arborist has a program that could be used to remove the trees. Someone would need to plant new trees to keep the lot within ordinance requirements. Near term, weeks away.

Cost: City Arborist removal would be ~ \$1,000; amount to plant new trees = hundreds.

2. Pursue a rapid rectangular flashing beacon (RRFB) if confirmed by GetAbout Columbia staff to be acceptable or pedestrian actuated flashing yellow lights (PFYL). RRFBs are still being evaluated by GetAbout Columbia with the first installation complete near Old 63 & Walnut (Nov, 2011). This would be the next most logical step to help increase awareness of pedestrians for drivers and to increase pedestrians' awareness that they are entering a roadway without stop control. Short term, 1-2 years depends primarily on funding.

Cost: approximately \$32,000 for RRFB.

3. Complete light study of corridor. The street is well lit given its previous use, but modifications due to changing conditions over time could potentially be beneficial. Short term, 1-4 years if any modifications necessary.

Cost: probably less than \$80,000 for physical lighting modifications, study cost depends on if City personnel completes study or not.

4. Complete engineering analysis of how to address the intersection long term based on full build-out of Columbia College's Master Plan. Planning documents are very good tools, but do not provide detailed enough analysis of specific locations. Any option must take into account the long term need to keep the intersection free of congestion as well as the desire for future plans for development south of the intersection. Congestion at this location impacts points east and west and emergency response on this critical Major Collector. There appear to be several other intersections in the College's Master Plan that could use a more detailed examination. Columbia College has a better grasp of their intended plans for development than City traffic staff.

It is anticipated that a roundabout might be the best long-term solution at the 10<sup>th</sup> & Rogers location, but further examination is needed. Significant right of way would be needed for the roundabout option. This option would probably entail modifying pedestrian desire paths off of right of way. A raised intersection is also an option to consider as either a long or medium term solution. A signal might be an option depending on long term projections, but would necessitate some geometric modifications and probably isn't the best overall solution.

Analysis near term 1-2 years (depending on who completes analysis- City or private firm).  
Implementation unknown.

Costs unknown – hundreds of thousands order of magnitude for implementation.

5. Consider underground utilities south of Rogers and elimination of poles and possible widening of sidewalk. Possibly a streetscape improvement for Rogers. Implementation unknown, assumed to be greater than 3 years.

Cost – hundreds of thousands order of magnitude.

## Rangeline Street

1. Mark and sign the crosswalk at the main Southwell Gymnasium entrance.

Cost = \$ 800 signs and markings (paint not tape).

2. There are currently three marked and signed crosswalks across Rangeline. Some consideration should be given to modifying or removing markings and signing at the crosswalk furthest north of the requested location to help reduce visual clutter. Since most pedestrian activity in the area is

related to Columbia College activities, coordination with the College on the modifications would be necessary.

3. Additional marked crosswalks along Rangeline beyond the additional Southwell crosswalk should probably be avoided due to visual clutter and possible reduced effectiveness.

Analysis of the 10<sup>th</sup> & Rogers intersection indicated the location does not meet all-way stop warrants (it is relatively close to the warrant volumes with pedestrians included). The location does not meet vehicular volume signal warrants or pedestrian signal warrants. The location is considered part of a network of roadways since both streets are Major Collectors so a signal could be pursued if deemed to better serve the public as part of the network of roadways.

Discussion with the Fire Department yielded concerns about congestion at the intersection if either a signal or all-way stop is pursued. They currently have difficulty making the northbound to eastbound right turn if there are vehicles at the intersection. The through movement is not as much of a concern currently, but would be if stop or signal controlled. If stopped vehicles were present, removal of the median should be considered to allow additional space at the intersection for emergency response. There are times when there appears to be lack of pedestrian awareness that they are entering the roadway (crossing without adequately checking oncoming traffic).

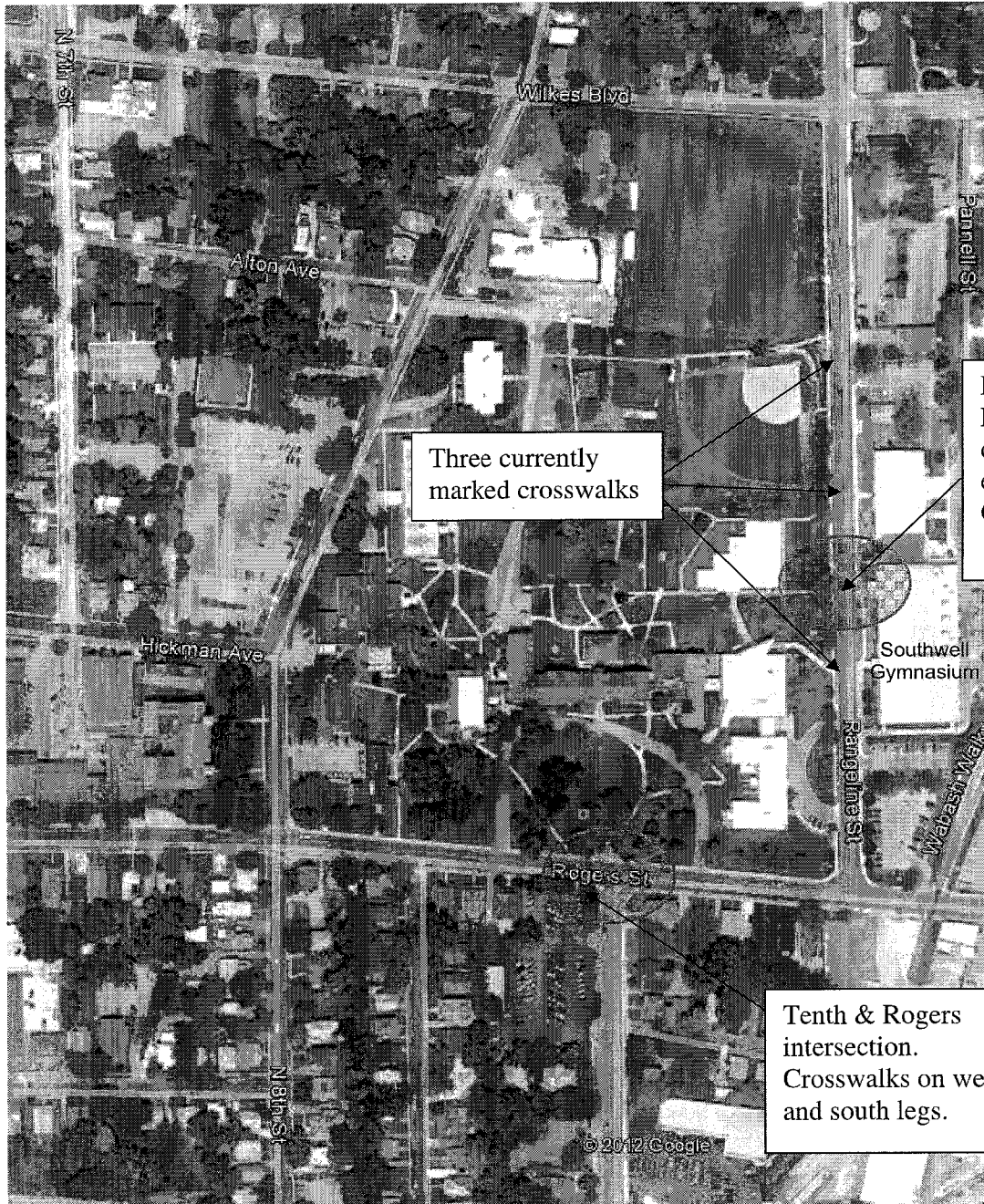
Discussion with the Police Department yielded observations appear to indicate that shadows cast by the trees at night might decrease some pedestrian visibility for motorists. Consideration of modifying the lighting scheme and or removal of the Bradford Pears might help. There may be some lack of pedestrian awareness that they are entering the roadway.

Due to the relatively captive audience for most pedestrian users at these crosswalks, there might be an opportunity for an awareness campaign to heighten pedestrian scrutiny of oncoming traffic when using the crosswalks.

January 2012 – 10<sup>th</sup> Street & Rogers Street intersection and Rangeline Street crosswalk evaluation  
Recommendations for modifications

<b>Recommended Modification</b>	<b>Location</b>	<b>Potential time frame for modification</b>	<b>Needed next step if recommendation approved</b>	<b>Anticipated Cost</b>
Remove Bradford Pears near Tenth & Rogers	10th & Rogers	Weeks	College authorize removal - Arborist remove - College plant different species	~\$1,000 (City Arborist); ~hundreds for re-planting (Columbia College)
Install RRFB or PFYL	10th & Rogers	1-2 years (funding dependant)	Determine funding	~ \$32,000 (unknown source)
Study lighting - modify lighting	10th & Rogers	1-4+ years	Determine source of study / funding	~\$80,000 (unknown source)
Determine 10th & Rogers long term improvement	10th & Rogers	1-4 years	Determine source of study / funding	unknown
Underground utilities south of Rogers	10th & Rogers	Greater than 3 years	Determine direction	unknown
Mark and sign Southwell Gymnasium crosswalk	Rangeline Street	Spring, 2012 (weather dependant)	Authorize Operations to install signs and markings	\$ 800 (city cost)
Awareness campaign for crosswalk safety	General	Unknown	Unknown	Unknown

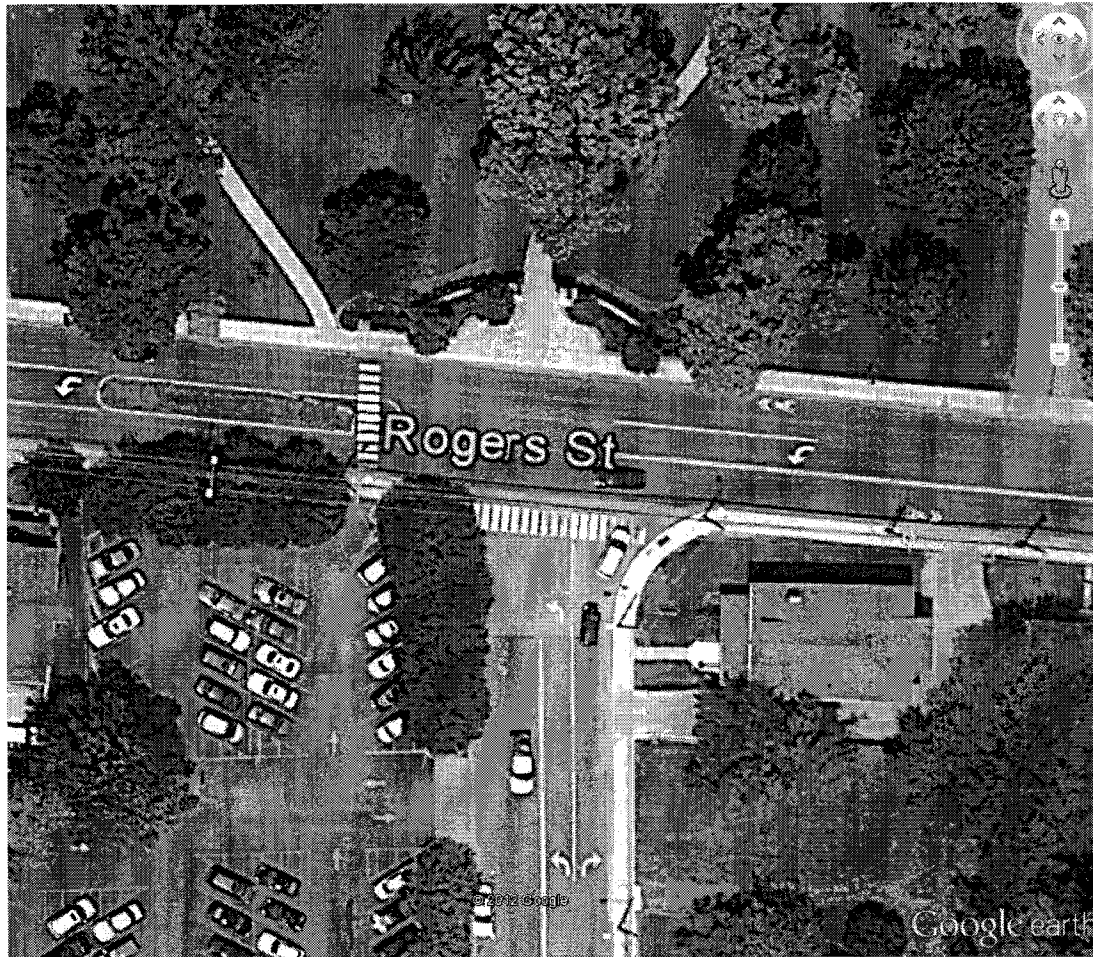




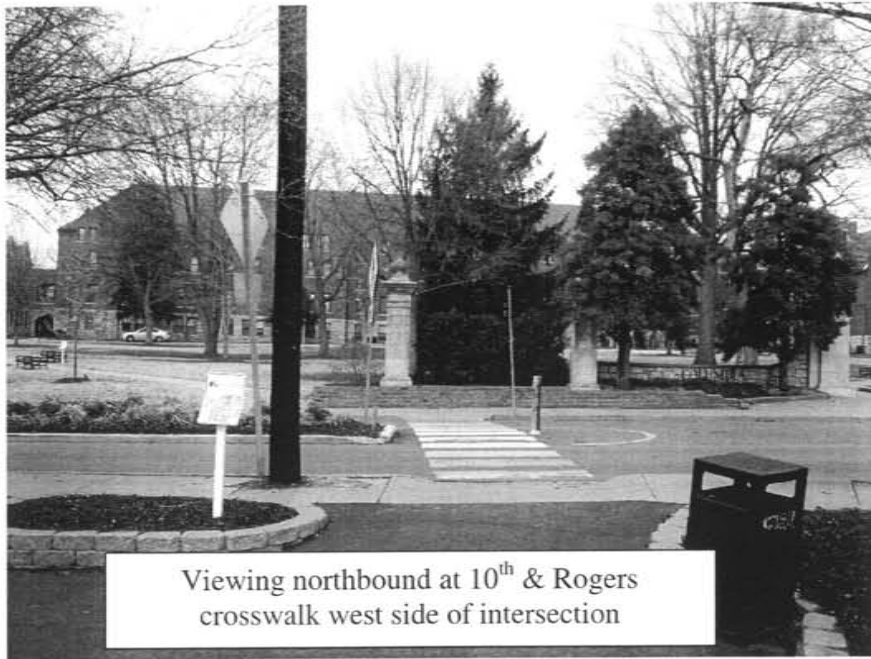
Three currently  
marked crosswalks

Rangeline Street.  
Request to mark  
crosswalk at west main  
entrance to Southwell  
Gymnasium

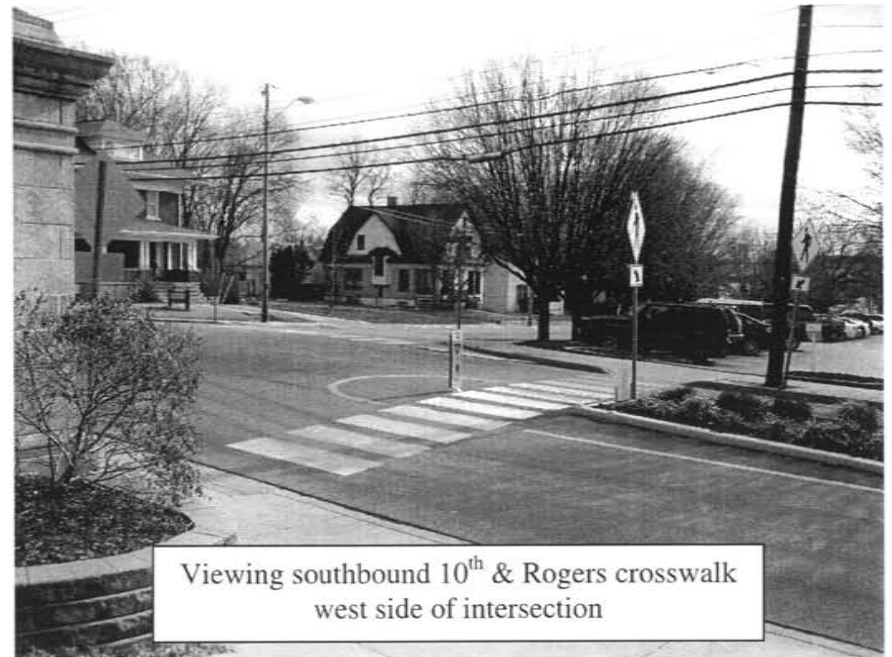
Tenth & Rogers  
intersection.  
Crosswalks on west  
and south legs.



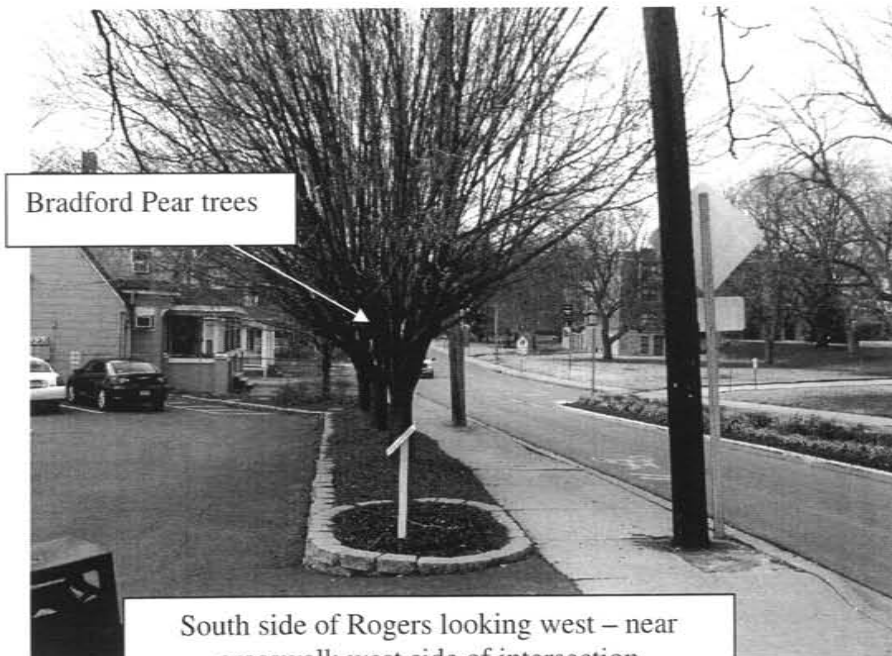
10<sup>th</sup> Street & Rogers Street.



Viewing northbound at 10<sup>th</sup> & Rogers  
crosswalk west side of intersection

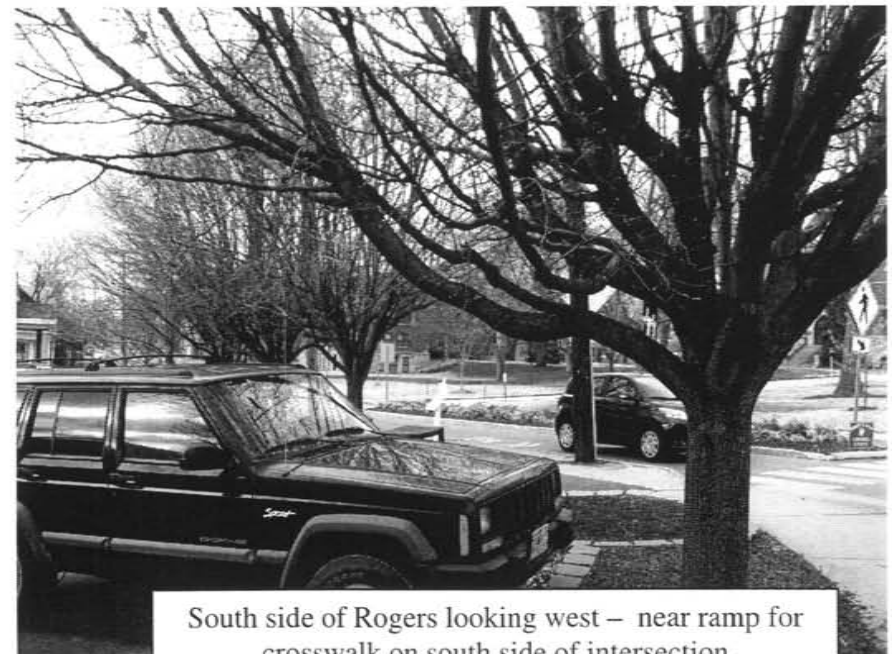


Viewing southbound 10<sup>th</sup> & Rogers crosswalk  
west side of intersection



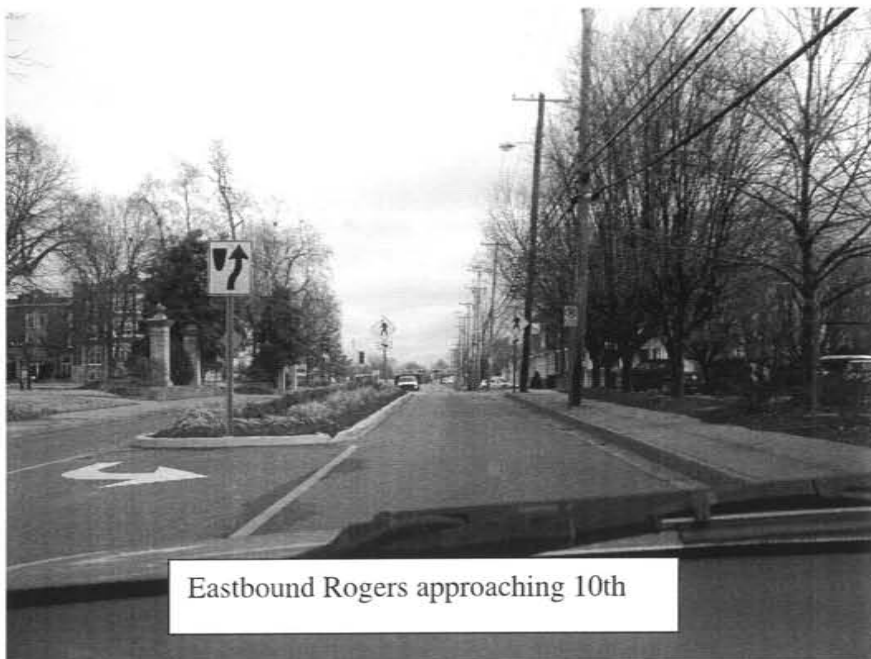
Bradford Pear trees

South side of Rogers looking west – near  
crosswalk west side of intersection

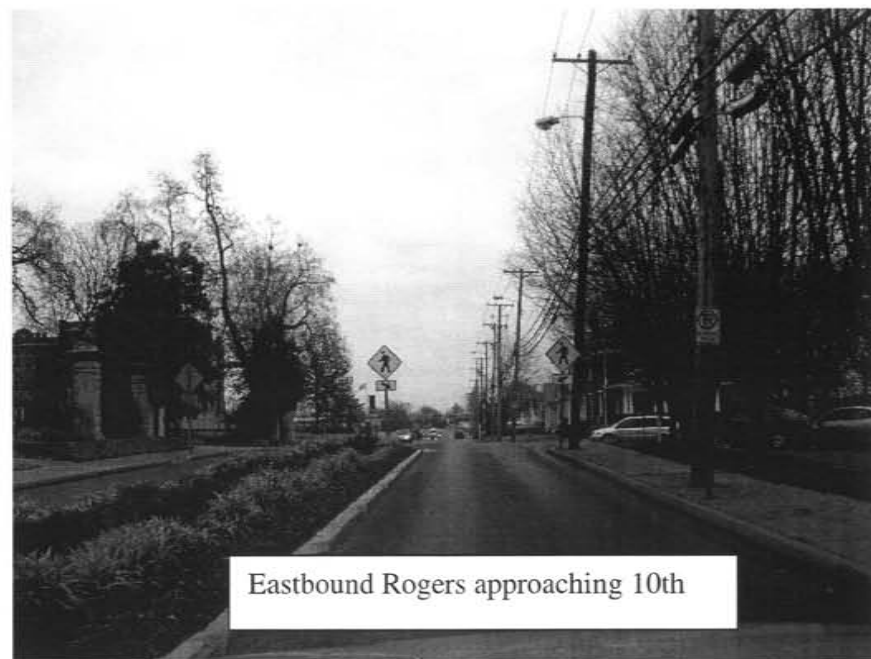


South side of Rogers looking west – near ramp for  
crosswalk on south side of intersection

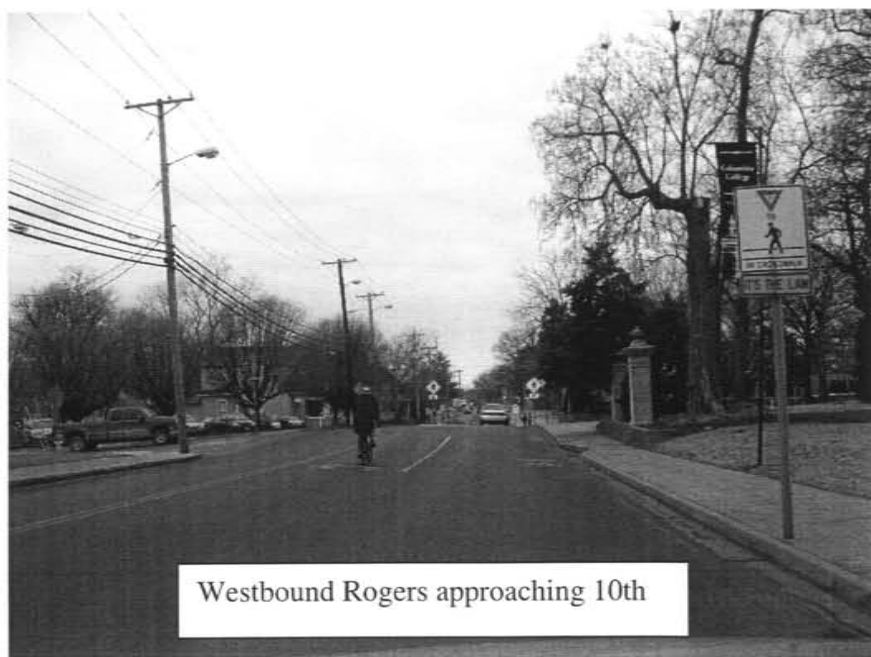




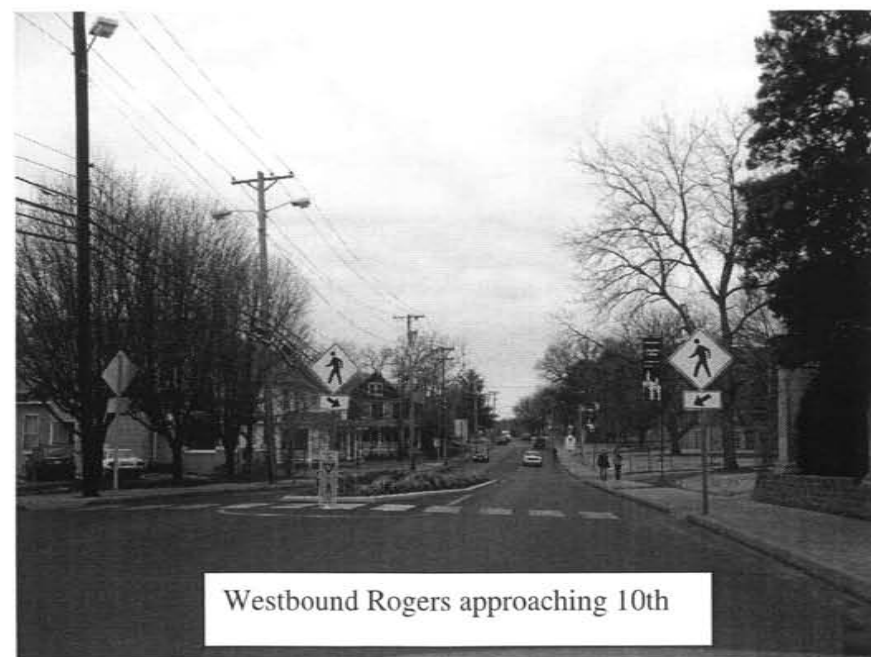
Eastbound Rogers approaching 10th



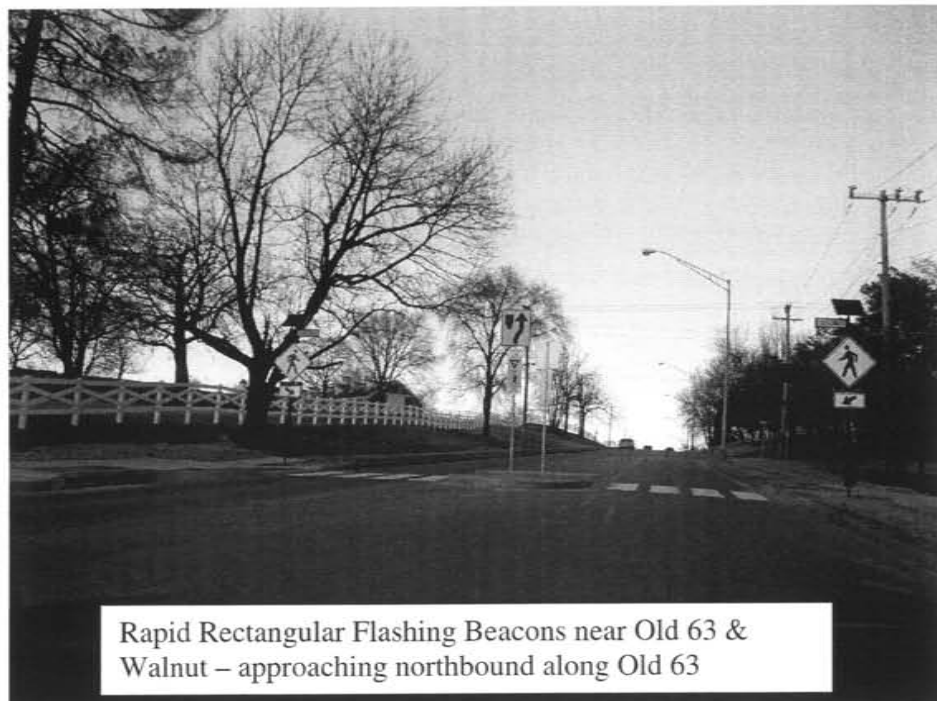
Eastbound Rogers approaching 10th



Westbound Rogers approaching 10th



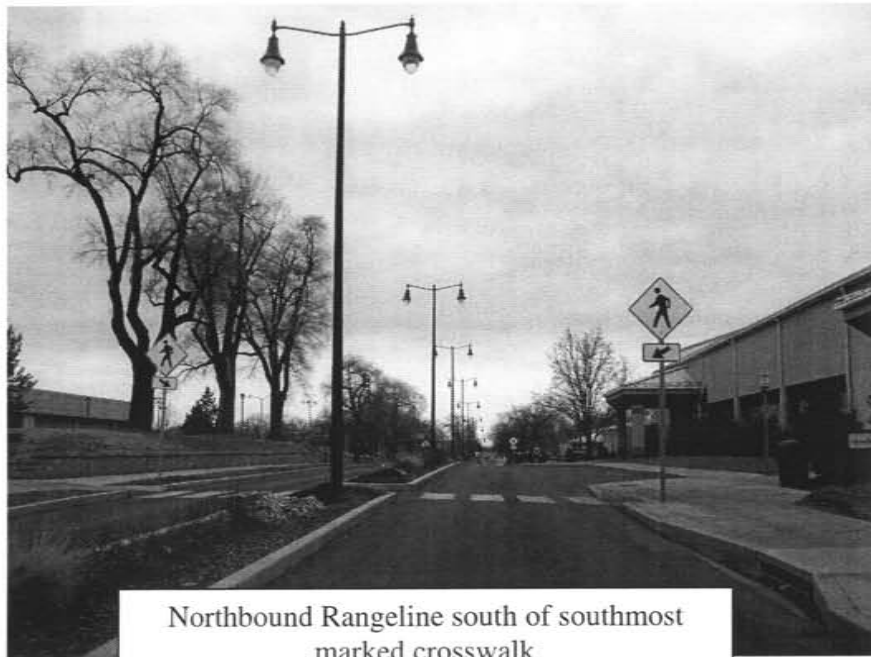
Westbound Rogers approaching 10th



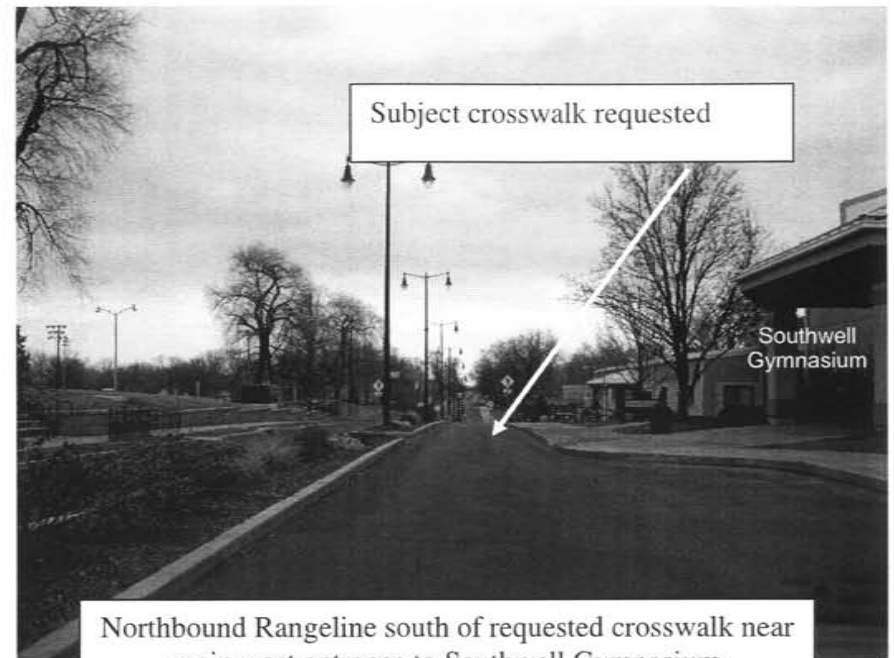
Rapid Rectangular Flashing Beacons near Old 63 & Walnut – approaching northbound along Old 63



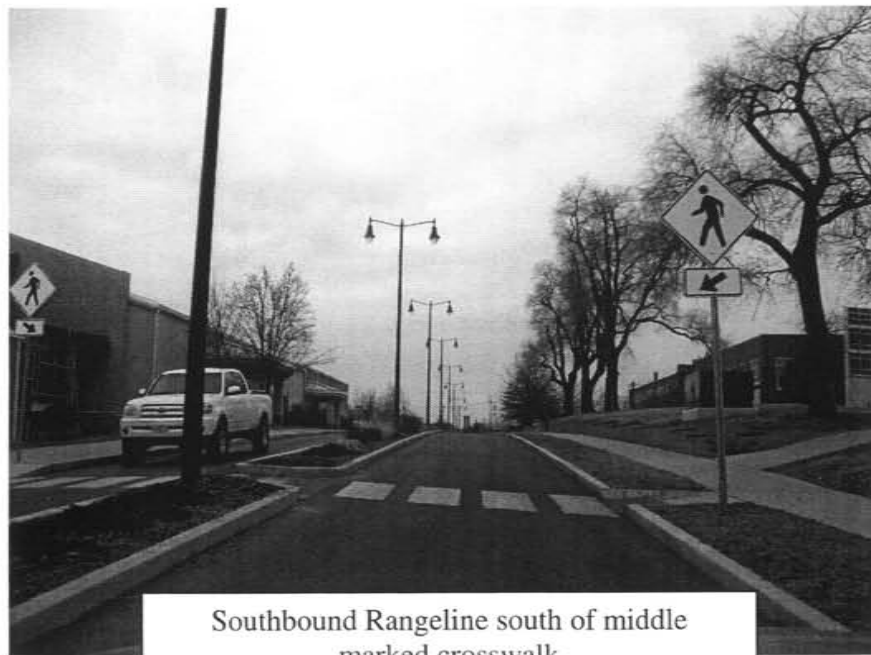
Rapid Rectangular Flashing Beacons near Old 63 & Walnut



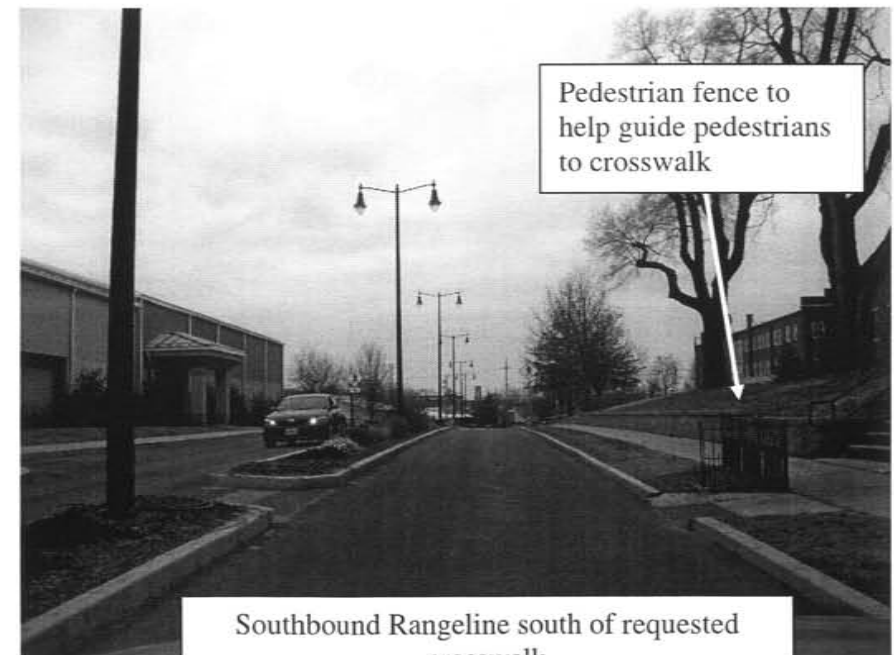
Northbound Rangeline south of southmost marked crosswalk



Northbound Rangeline south of requested crosswalk near main west entrance to Southwell Gymnasium



Southbound Rangeline south of middle marked crosswalk



Southbound Rangeline south of requested crosswalk