

The analyses performed in this report indicate that alternate traffic control methods should be considered as a result of the existing conditions at many of the study intersections. However, there are a number of intersections where it is recommended that the existing traffic control device be retained. The recommendations for each intersection were based on a number of factors. These factors include:

- Historical crash data
- Effectiveness of existing and alternative traffic control methods
- Intersection visibility / safety
- Intersection geometry
- Traffic volumes (vehicles, bicycles, and pedestrians)
- Potential for increases in the traffic volumes
- Surrounding development characteristics
- The intersection's function as a part of the overall roadway network
- Traffic signal timing / coordination issues
- Effective use of the roadway right-of-way
- Possible re-routing of SR 185 and the potential decrease in traffic along the existing route

This information presented in this report is intended to be used for decision making by the City of Piqua to determine what actions should be taken with reference to future traffic control at each of the study intersections. While the report outlines a number of safety-related improvements that should be performed in conjunction with the recommended change in traffic control, it is the responsibility of the designer of the traffic control modifications to ensure that the appropriate intersection design criteria are addressed. Although not specifically mentioned for all intersections where the modification of a particular traffic control device is recommended, it is a general recommendation that the removal of on-street parking and other sight distance restrictions be considered to provide adequate visibility of traffic control devices and/or approaching traffic.

The changes recommended for each intersection are summarized on the following page. Also, an Existing Traffic Control Map and a Proposed Traffic Control Map are included at the end of the Appendix.

Intersection	Existing Traffic Control	Recommendation
High at Broadway	Traffic Signal	Retain traffic signal
High at Downing	Traffic Signal	Consider replacing traffic signal with four-way stop
High at Wayne	Traffic Signal	Consider replacing traffic signal with four-way stop
High/Market at Main	Two-Way Stop	Retain existing traffic control
College at North	Traffic Signal	Consider replacing traffic signal with two-way stop, with stop signs on North Street
College at Greene	Traffic Signal	Consider replacing traffic signal with two-way stop, with stop signs on Greene Street
College at Ash	Traffic Signal	Consider replacing traffic signal with two-way stop, with stop signs on Ash Street
College at High	Traffic Signal	Convert signal to actuated operation. Coordinate College St. signals from Covington to High
College at Water	Traffic Signal	Convert signal to actuated operation. Add westbound left-turn signal and northbound right-turn signal. Coordinate College St. signals from Covington to High
Greene at Downing	Traffic Signal	Consider replacing traffic signal with four-way stop
Greene at Wayne	Traffic Signal	Consider replacing traffic signal with four-way stop
Greene at Main	Traffic Signal	Retain traffic signal. Left-turn lanes on Greene Street may be removed if desired
Park at College / Nicklin	Traffic Signal	Retain traffic signal
Park at Broadway	Traffic Signal	Retain traffic signal
Broadway at North	Traffic Signal	Retain traffic signal
Ash at Broadway	Traffic Signal	Retain traffic signal
Ash at Downing	Traffic Signal	Consider replacing traffic signal with two-way stop, with stop signs on Downing Street
Ash at Main	Traffic Signal	Retain traffic signal and existing lane configuration
South at Wayne	Traffic Signal	Consider replacing traffic signal with four-way stop
South at Downing	Four-Way Stop	Retain four-way stop control
South at Roosevelt	Traffic Signal	Consider replacing traffic signal with two-way stop
Wood at Roosevelt	Traffic Signal	Consider replacing traffic signal with four-way stop
College at Wood	Four-Way Stop	Retain four-way stop control
College at Young	Four-Way Stop	Consider converting intersection to two-way stop, with stop signs on Young St.
South at Brice	Traffic Signal	Retain traffic signal
McKinley at Grant	Traffic Signal	Consider replacing traffic signal with two-way stop if sight distance restrictions can be eliminated
McKinley at Clark	Two-Way Stop	Retain two-way stop. Address sight distance restrictions. Consider advance signing to warn of pedestrian crossings.

Appendix



Project: City of Piqua
Intersections Improvements Study
Job #: 080370
Date: 9/3/08
RE: Input Awareness Meetings

Summary of Input Received

Meeting Date 8/25/08
and Times: 3:00 p.m. with City of Piqua staff members and advisory board members
6:00 p.m. with members of the general public

Location: City of Piqua – Municipal Government Complex

Attachments: Attendance Roster, General Input Survey Form,

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As part of the City of Piqua’s Intersections Improvements Study, an Input/Awareness meeting was held on August 25, 2008. The purpose of the meeting was to introduce the project to City staff members, advisory board members and the general public, to discuss “best practices” in providing intersection traffic control, and to receive input from those in attendance regarding their specific concerns and observations at the intersections being studied.

This meeting was held in two separate sessions. The first session was held at 3:00 p.m. with City staff and advisory board members. The second session was held at 6:00 p.m. with members of the general public. Ward Four Commissioner Judy Terry and Ward Five Commissioner Lucy Fess were in attendance at the 6:00 p.m. session as well.

The meeting was facilitated by City Planner Chris Schmiesing. Nathan Moore and Mark Nolt, both of Kleingers and Associates, discussed various traffic control methods as well as issues considered by traffic engineers when determining the proper traffic control devices to be used for various types of intersections.

Input was received from the session attendees during two discussion-generating exercises. In the first exercise, participants were requested to fill out a general input survey form on which they ranked the importance of six aspects of intersections in general. A scale was assigned to the rankings with 1 being the most important and 5 being the least important. The intersection aspects that were ranked were Aesthetics, Capacity, Environmental, Operation/Maintenance, Safety, and Convenience. After each participant had the opportunity to fill out the survey form, the rankings of each participant were compiled into a composite ranking for each aspect. There was also discussion as to why the participants ranked the items the way they did.

In the second exercise, each participant was asked to place nine colored stickers (red, yellow, and green) on an aerial photo that showed all of the study intersections. The stickers were to be placed on intersections that they believe need attention, with red indicating high importance, yellow indicating moderate importance, and green indicating low importance. After each participant had the opportunity place their stickers on the aerial photographs, Chris Schmiesing led a discussion about intersections where stickers had been placed, in particular those with multiple stickers. In the discussion, participants were given the opportunity to express concerns they have regarding the study intersections.

The attendees were also provided with a general comments sheet with which they were encouraged to submit any additional concerns related to the study intersections that may not have been discussed during the meeting.

The following is a summary of the input received during each of the meeting sessions.

Session One (3:00 p.m.)

Seven participants were involved in the first session.

Intersection Aspect Rankings

Based on the combined scores given by all participants, the intersection aspects are listed below in order of importance from most important to least important, with the overall score listed to the right.

Safety	7
Capacity	10
Convenience	14
Operation	17
Aesthetics	24
Environmental	27

In the general discussion that followed, there were a number of comments made regarding the reasons each participant scored the aspects the way they did. These comments are listed below.

- Safety is paramount
- There is a relationship between intersection capacity and safety
- The importance of aesthetics depends on the location of the intersection
- High-tech equipment is great, but it has to be maintainable
- Safety should include not only crashes at the intersection, but also emergency response characteristics
- Operational breakdowns can have an effect on the other ranked aspects

Input on Study Intersections (Colored Sticker Exercise)

Based on the placement of the colored stickers, the comments that were made relative to the study intersections are listed below.

South at Roosevelt

- Traffic signal is not needed due to low traffic volumes
- There used to be a school located near the intersection

College at North

- There are low traffic volumes
- There used to be a school located near the intersection

College at Greene

- There are low traffic volumes
- There used to be a school located near the intersection

Downing at Greene

- There are low traffic volumes
- Traffic signal obstructs traffic flow
- Maybe this should be a two-way stop
- There is a library nearby—however, it may move

Roosevelt at Wood

- There is poor visibility at the intersection
- There are high pedestrian volumes late at night
- The traffic signal helps to slow traffic
- The streets are narrow, making turns difficult

South at Brice

- Adjacent to Favorite Hill School
- Traffic signal is needed for student crossings
- There is a crossing guard that pushes the pedestrian button
- Pedestrian crossing used to occur at a mid-block location
- Operational changes may be needed

South at Wayne

- Traffic signal is not needed due to low traffic volumes

South at Downing

- There was a school located near this intersection
- Traffic patterns are affected by changes in business / operation at Hartzell facilities

College/Park/Nicklin

- There has been pressure from parents to keep the traffic signal due to students walking to school
- School pedestrian traffic is no longer an issue

- Traffic signal was out of service for some time due to a storm and a four-way stop was temporarily put in place. The four-way stop seemed to work very well.

McKinley at Clark

- There are sight distance issues
- Traffic signal may be needed

Downing at Ash

- There is a plan to install a new traffic signal so that it can be coordinated on Ash

Input on Intersections Not Included in Study

South at Main

- Timing changes are needed to improve progression

South at Garnsey

- Timing changes are needed to improve progression

Session Two (6:00 p.m.)

Six participants were involved in the second session.

Intersection Aspect Rankings

Based on the combined scores given by all participants, the intersection aspects are listed below in order of importance from most important to least important, with the overall score listed to the right.

Safety	7
Capacity	8
Convenience	9
Operation	12
Aesthetics	18
Environmental	19

In the general discussion that followed, there were a number of comments made regarding the reasons each participant scored the aspects the way they did. These comments are listed below.

- Aesthetics is important, not necessarily by way of roundabouts. Capacity is important. There are sight distance concerns at many intersections in the City.
- Aesthetics is not as important. Capacity is very important. Safety and convenience are important.
- Getting from Point A to Point B is what is important
- Sight distance is a concern along Park Avenue at many of the side streets. Operation, safety, and convenience are the most important aspects. On-street parking creates sight distance problems.

- Disobedience of traffic signals is a problem. Flashing operation of traffic signals is not desirable.
- Safety, convenience, and capacity are very important. The use of traffic circles should be avoided.

Input on Study Intersections (Colored Sticker Exercise)

Based on the placement of the colored stickers, the comments that were made relative to the study intersections are listed below.

Roosevelt at Wood

- Traffic signal is redundant
- There are low traffic volumes
- There are sight distance restrictions – may need four-way stop
- This may need to be a one-way street due to the narrow width
- Traffic signal is not warranted
- Two way stop would be adequate

South at Roosevelt

- Traffic signal is not warranted
- Signal was installed due to school—school is no longer there
- Two-way stop would function appropriately

South at Brice

- Traffic signal provides a safe crossing for school students
- Signal is needed due to proximity to school
- Motorist confusion may be a problem
- Alternate traffic control may be appropriate

McKinley at Clark

- Concerns regarding safety of children going to park
- There are sight distance concerns at the intersection
- If traffic signal were to be considered, the installation and maintenance costs should be considered

College at Young

- Four-way stop is not necessary
- The surrounding land use has changed. Manufacturing land uses are no longer there.

College at Wood

- This intersection is used to bypass the traffic signal at Covington and College
- There needs to be a public education/awareness effort if and when changes are made

College at Ash

- Used to be a school adjacent to the intersection
- US 36 used to be routed through this intersection
- Nearby church has decreased in size

College at North

- North Street School is no longer there
- St. Mary's Catholic School may still desire to have the signal in place

College/Park/Nicklin

- Traffic signal should stay in place due to the Nicklin Learning Center unless pedestrian volumes are low
- There is confusion with the signal operation. It is difficult to determine if the opposing traffic has the green light.
- The intersection worked well as a four-way stop when traffic signal was temporarily out of service
- There was a hospital near this intersection that has since closed

Broadway at Park

- There used to be a school on one corner of the intersection that is no longer there
- There is truck traffic on SR 185
- Consider re-routing SR 185 to a less residential area
- If SR 185 were to be re-routed, the traffic signal would not be needed at this intersection

Broadway at Ash

- Traffic signal is not needed

Broadway at High

- Traffic signal is not needed

Downing at Greene

- Traffic signal is not needed
- St. Paul's Church is nearby. Four-way stop may be appropriate

Downing at Ash

- Traffic signal is not needed
- Two-way stop may be appropriate

Downing at High

- Traffic signal is needed due to pedestrians
- The YMCA is on three corners
- There are a lot of kids that use the YMCA, but many cross the street mid-block rather than at the intersections.
- Four-way stop may be appropriate

Main at Greene

- Need to balance the need for left turn lanes with the need for downtown parking
- The left turn lanes at this intersection cause all lanes to be narrow

Main at Ash

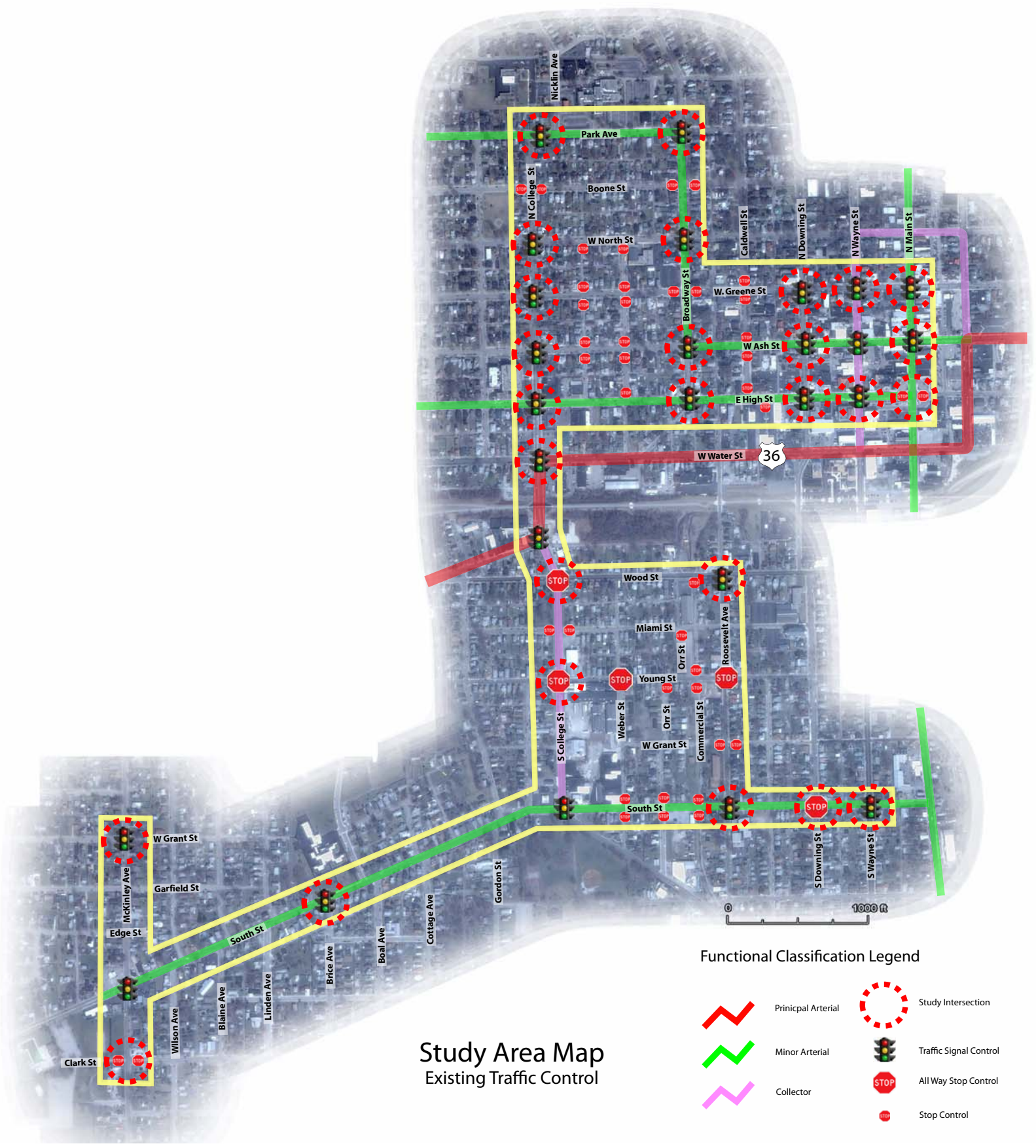
- Determine if left turn lanes are needed
- There are a significant number of left turns made from Ash

Main at High/Market

- Consider closing streets to create a parking lot
- Consider designating streets as one way








General Comments

- Citizens are not likely aware of the costs involved in operating a traffic signal
- In general, children do not walk to school as much as they used to










Study Area Map
Existing Traffic Control

Functional Classification Legend

- | | | | |
|---|--------------------|---|------------------------|
|  | Principal Arterial |  | Study Intersection |
|  | Minor Arterial |  | Traffic Signal Control |
|  | Collector |  | All Way Stop Control |
| | |  | Stop Control |



Functional Classification Legend

-  Principal Arterial
-  Minor Arterial
-  Collector
-  Study Intersection
-  Traffic Signal Control
-  All Way Stop Control
-  Stop Control

Study Area Map
Proposed Traffic Control