

Chapter 5: Circulation Improvement Strategy

Circulation Observations:

- Sidewalks are located throughout most of the neighborhood, although several sidewalks do not have an access ramp, making access difficult, particularly for the physically challenged and persons with a stroller, walker, etc.
- Limited sight distance is a problem at Perrin and Washtenaw and Washington and Cross.
- Certain intersections along the corridor require installation of traffic signals.
- High-speed travel on Cross Street and Washtenaw Avenue.
- Traffic signals are not coordinated for AM/PM peaks.
- Existing bus stops are not necessarily located where they are the most beneficial for existing users.
- There is a shortage of walkways linking the neighborhood to the surrounding parks and trail system precluding pedestrian & bicycle access.
- The pattern of development and transportation patterns are not conducive to pedestrian activity, or non-motorized transportation.

Existing Conditions

The one-way traffic pattern of Cross and Washtenaw provides an efficient flow of traffic—which is one of the Michigan Department of Transportation’s goals. Yet people who walk in the district sense the streets have become so efficient that traffic is moving too fast. The one-way circulation and lack of on-street parking has also become a hardship for storefront business owners.

During the community meetings, a common theme that participants noted is their displeasure with the wide streets built to standards that are atypical of Ypsilanti’s urban environment. Many would like the streets to revert to the way they were before traffic efficiency formulas were applied. They believe narrowing the street widths would stimulate private investment, provide a friendlier environment for pedestrians, and improve the streetscape. A significant effort was made by the team to accommodate these observations and goals.

A traffic analysis was conducted in Fall 2001 to identify the existing traffic circulation conditions and to test the proposed improvement for suitability. Conditions studied include traffic volumes, crash data, traffic flow and traffic signal locations. Detailed data is included in Technical Report 1: Level of Service



Above: Traffic flow at Cross and College Place.

Summary, Schematic Drawings, Count Volumes, Crash Data and Spot Speed Data and Technical Report 2: Highway Capacity Software Output.

Traffic Flow

During the course of this study, there have been many opportunities to visit the area at a variety of times during the day. Based on general observation, traffic operations are excellent. There is no evidence of congestion; all vehicles pass through each signalized intersection on the first cycle they encounter. Normally, the gaps in traffic flow should provide opportunities for pedestrians to cross either Washtenaw or Cross Street, however pedestrian crossing is difficult due to the speed of vehicular travel. In addition, the gaps provide times for side street drivers to enter the eastbound or westbound traffic flows. Sight lines are excellent at most locations. However, because of the uncongested nature of traffic operation and the wide streets, travel speeds are higher than the posted speed limit. By introducing parking, and reducing the number of travel lanes from three (3) to two (2), it would be expected that travel speeds would be moderated.



Above: Truck traffic often travels through the residential neighborhood.



Above: Mid-day traffic on Cross Street.

Volumes

Traffic counts were taken at 26 intersections on September 19, 2001, for the time period 4:15-5:45 PM. This day was judged to be typical and representative of area traffic operations. From this data, it was determined that the actual PM peak hour was 4:45-5:45 PM. Peak-hour volumes on Cross and Washtenaw (both M-17) were approximately 1,400. The capacity of these two 3-lane roadways far exceeds the peak-hour demand.

Crash Data

Information concerning vehicle crashes on both Cross and Washtenaw Streets (M-17) was collected from WATS for the years 1997-1999. A review of this information reveals that most of the crashes are “property damage only” (PDO). Personal injury crashes were a minority of the total number that occurred although there has been one pedestrian fatality on Washtenaw, between Normal and College Place. Detailed data is included in Technical Report 1.



Above: Most deliveries take place on Cross Street.

Level of Service - 2001

The accepted professional method for measuring an intersection’s traffic operation performance is a capacity analysis that results in an evaluation of average vehicle delay, and a corresponding rating known as Level of Service (LOS). This LOS is identified by a letter system ranging from LOS A (the best) to LOS F (the worst). An average LOS D is considered an acceptable peak level in urban areas.

Roadway operations are examined and analyzed by traffic flow and delay characteristics. This concept and the methods of study are detailed in the Transportation Research Board publication Highway Capacity Manual. A capacity analysis represents a comparison of supply and demand characteristics of a roadway facility. The available supply refers to the physical and control features (number of lanes, lane width, and right-of-way), and the demand refers to the traffic volume expected to use the facility. In Appendix F are intersection





Above: Pedestrian crossing on Cross Street

analyses output for both: (a) the Phase 1 one-way operation plan, and (b) the Phase 2 two-way operation plan.

The resulting LOS for the intersection as a whole for existing operations, as well as for both the Phase 1 and Phase 2 plans, identifies an LOD of D or better. For the Perrin – Cross Street intersection, a southbound exclusive right-turn lane is needed to achieve LOS D.

Level of Service – 2021

To determine 2021 traffic volumes, 2001 volumes were increased by one percent (1%) per year compounded, resulting in an overall increase factor of 22%. Again for both one-way and two-way operations, LOS D was achieved (with the addition of a southbound right turn lane on Perrin, north of Cross.



Above: On-street parking on Emmet.

Circulation Development Strategies

Circulation alternatives explored in this study led to recommendations for changing the current traffic pattern. The vision presents a strategy for pursuing two-way traffic to help connect the neighborhood back to the city. The circulation strategy has two phases. A Phase 1 plan, intended to be complete within five years, allows for Washtenaw and Cross Street to remain one-way with slight modifications to improve circulation and address the needs of Cross Street merchants by providing on-street parking on the south side of Cross. The Phase 1 plan allows the city to address immediate needs while devoting more time to planning/engineering and setting the budget for the long-term Phase 2 goal of switching to two-way traffic.



Above: The vast amount of pavement at the Emmet, Normal and Washtenaw intersection is uninviting for pedestrians

Reorganizing the traffic patterns will require right-of-way and lane adjustments for Cross and Washtenaw. More extensive study is needed beyond the scope of this Plan, and should be part of the next step in the implementation program.

Phase 1

Traffic Flow

The Phase 1 plan retains the existing one-way traffic circulation flow and infrastructure along Cross and Washtenaw. Currently the capacity of these two 3-lane roadways far exceeds the peak-hour demand. This allows for the reduction of the number of lanes on both roads from three lanes to two, while maintaining one-way operation. Intersection capacity analysis data (Appendix A) confirms this scenario will operate well.

The study also recommends residential streets, currently a majority of one-way, should be two-way streets. Two-way traffic can be achieved on many streets in Phase 1. Hamilton, and Huron would remain one-way streets. Emmet would be converted from its current one-way operation to two-way. This includes

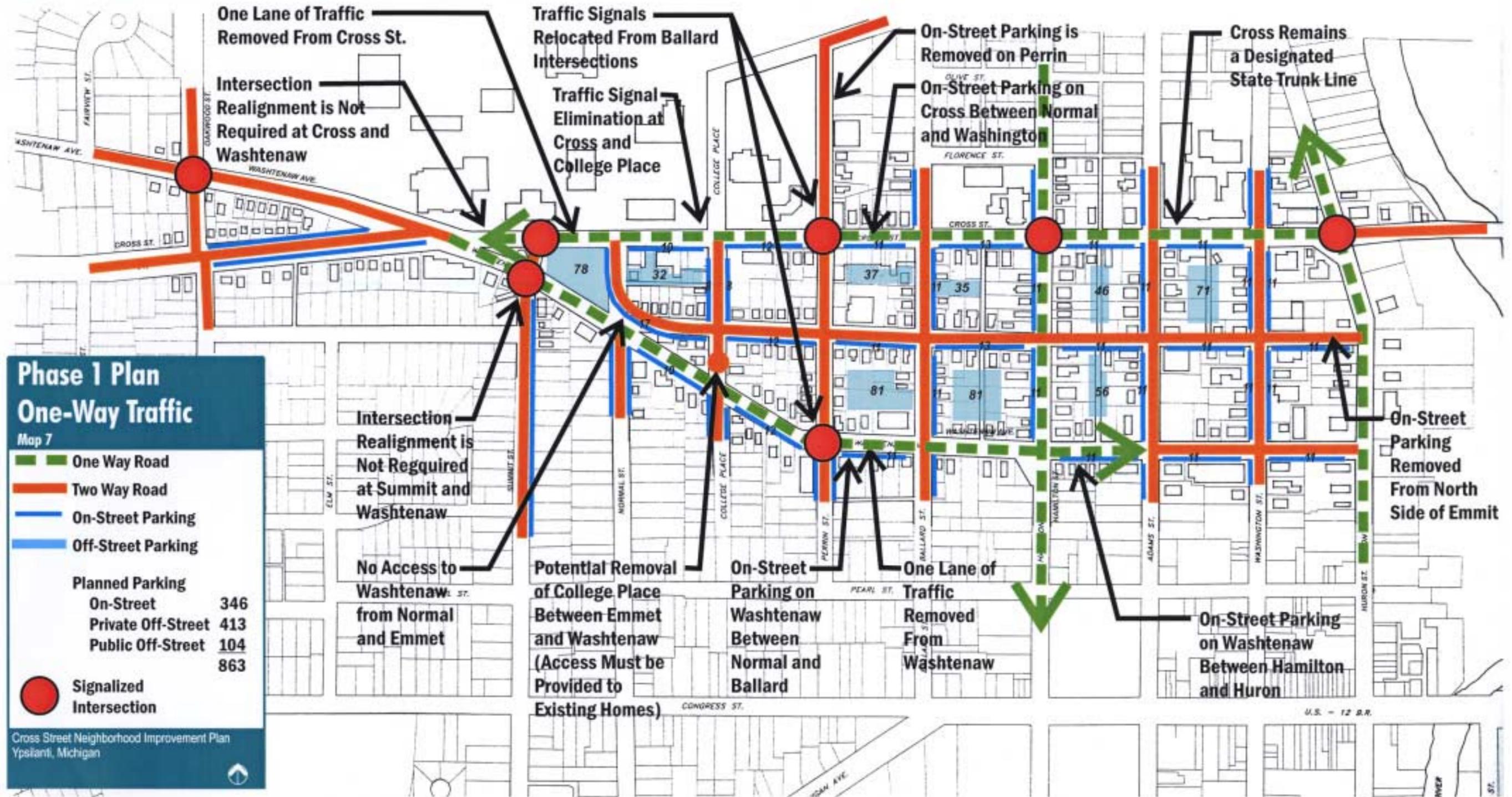
modifying the intersection of Emmet and Washtenaw so that Normal is closed off at Washtenaw, to reduce traffic currently flooding into the heart of the residential neighborhood. This also eliminates a large amount of pavement and reduces the confusion pedestrians encounter when crossing Washtenaw. College Place between Emmet and Washtenaw would be vacated. A private drive would provide access for the homes that front onto College Place at this location.

Alternative bus routes are needed to limit excessive use of neighborhood streets for buses. Improved amenities at bus stops would be an asset to Cross Street. Routes should be relocated to main arterials such as Huron and Washington. Revised bus stop locations and route changes should be coordinated for both the Phase 1 and Phase 2 action strategies.

Parking

Commercial on-street parking would be achieved in Phase 1 by eliminating one lane of traffic along Cross. On-street parking on the south side of Cross would extend from Washington to Normal. Striping for parking, along with signage and chokers would help organize traffic flow. Chokers utilize curb extensions to narrow the street at designated points. This assists in calming fast-moving traffic, delineating loading/delivery zones and parking spaces, and making it easier for people to cross. Wayfinding signs for vehicles and pedestrians will be added as part of an effective streetscape program.

On-street parking would also be added to Washtenaw Avenue during Phase 1. A striped parking area would extend along the south side of the roadway. Existing on-street parking would remain as is on Washington, Adams, Hamilton, Ballard, Summit and portions of College Place. On-street parking on the north side of Emmet and on Perrin would be removed to facilitate two-way traffic using the width of the existing streets. College Place between Emmet and Washtenaw and Normal between Cross and Washtenaw would be removed.



Comparison Summary			
	Existing	Phase 1	Phase 2
Total Parking Spaces	512	863	883
On-street	330	346	201
Private Off-street	78	413	462
Public Off Street	104	104	220
Cross Street			
Circulation	One-way (Westbound)	One-way (Westbound)	Two-way
Travel Lanes	3	2	2 (1 in each direction)
On-street Parking?	No	Yes (south side from Normal to Washington, 68 spaces)	Yes (south side from Normal to Perrin, 22 spaces)
Center Turn Lane?	No	No	Yes, from Perrin to Washington
Washtenaw (to Hamilton)			
Circulation	One-way (Eastbound)	One-way (Eastbound)	Two-way
Travel Lanes	3	2	2 (1 in each direction)
On-street Parking?	No	Yes (south side, 33 spaces)	No
Center Turn Lane?	No	No	Yes (requires widening between Hamilton and Huron)
Emmet			
Circulation	One-way (Eastbound)	Two-way	Two-way
Travel Lanes	1 (extra wide)	2	2
On-street Parking?	Yes (both sides)	Yes (south side, 86 spaces)	Yes (south side, 69 spaces)
Center Turn Lane?	No	No	No

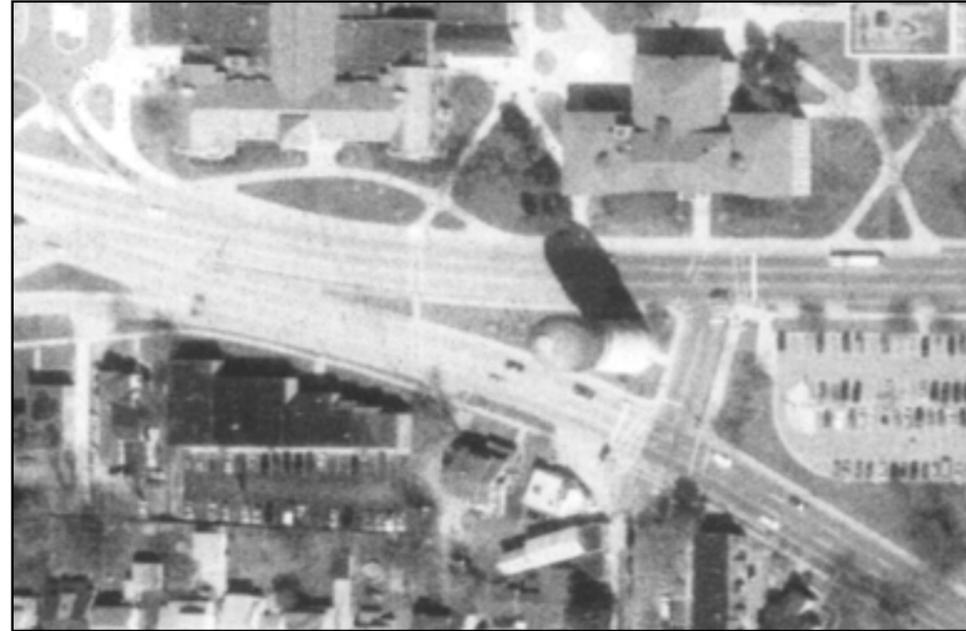
Note: All parking spaces have not been counted. Only on-street parking and consolidated parking spaces have been included in the count. Parking lots that have gone unchanged and individual residential lots have not been counted in the future calculations above.

Traffic Signal Location

A new gateway signalized intersection at Perrin and Washtenaw would direct visitors north to Eastern Michigan University and into the Cross Street Commercial District. Perrin would be improved dramatically through streetscape improvements, lighting and the removal of on-street parking.

The Phase 1 traffic circulation system maintains one-way operations with two travel lanes and one parking lane on both Washtenaw and Cross Street, calling for seven (7) signals. Signals that are unchanged include: Cross and Oakwood, Summit and Washtenaw, Summit and Cross, Hamilton and Cross, and Huron and Cross. The signal located at Cross and Ballard would be relocated to Cross and Perrin and the Washtenaw and Ballard signal would be relocated to Washtenaw and Perrin. The Cross and College Place signal will be eliminated.

Evaluation Matrix			
	Existing One-Way	Phase 1 Modified One-Way with On-Street Parking on One Side	Phase 2 Two-Way with Center Left-Turn Lane
Capacity (LOS)	++	+	ok
On-Street Parking	--	++	--
Crash Exposure	+	+	-
Pedestrian Safety	+	+	-
User Understanding	--	--	++
Traffic Calming	--	-	++
Travel Distance	-	-	+
Window Exposure	-	-	++
Load/Unload on Road	++	+	--
Cost to Implement	++	+	ok
Legend: Excellent (++ + ok - --) Poor			



Above: Aerial photo of existing circulation pattern at the water tower.

Phase 2

Traffic Flow

The Phase 2 plan completes the conversion of Cross and Washtenaw to two-way streets and reorganizes the Cross, Washtenaw and Summit intersection to accommodate two-way circulation. Once Cross Street and Washtenaw Avenue are converted back to two-way traffic, it will be possible to remove the MDOT State Trunk Line designation from Cross allowing it to become a city street again, with less rigid movement, parking and streetscape restrictions. Washtenaw may require adjustments to traffic lanes and right-of-way between Hamilton and Huron to accommodate two-way traffic and turn lanes.

The control point proposed to re-direct flow at the “Y” convergence of Cross and Washtenaw will allow for a traditional intersection on Washtenaw, with Cross Street aligned with Summit. Presently, the EMU parking lot is located across the street from the water tower. Future redevelopment may allow for



Figure 7: Proposed circulation pattern at the water tower with new adjacent park

these parking spaces to be relocated, as this is an ideal location for a new mixed-use building. With redevelopment at this key intersection, the space will be more adequately framed.

Once the new intersection is in place, the Cross Street roadway north of the water tower can be removed. This change creates room for an open space/ park connecting the Water Tower with McKenny Union and Welch Hall and extending into the campus. It provides an appropriate and attractive setting for the Water Tower, McKenny Union and Welch Hall, creating a new “front door” to EMU and a graceful entrance into the entire district.

Eliminating College Place north of Washtenaw to Cross Street provides room for amenities essential to building a successful commercial district as described previously.

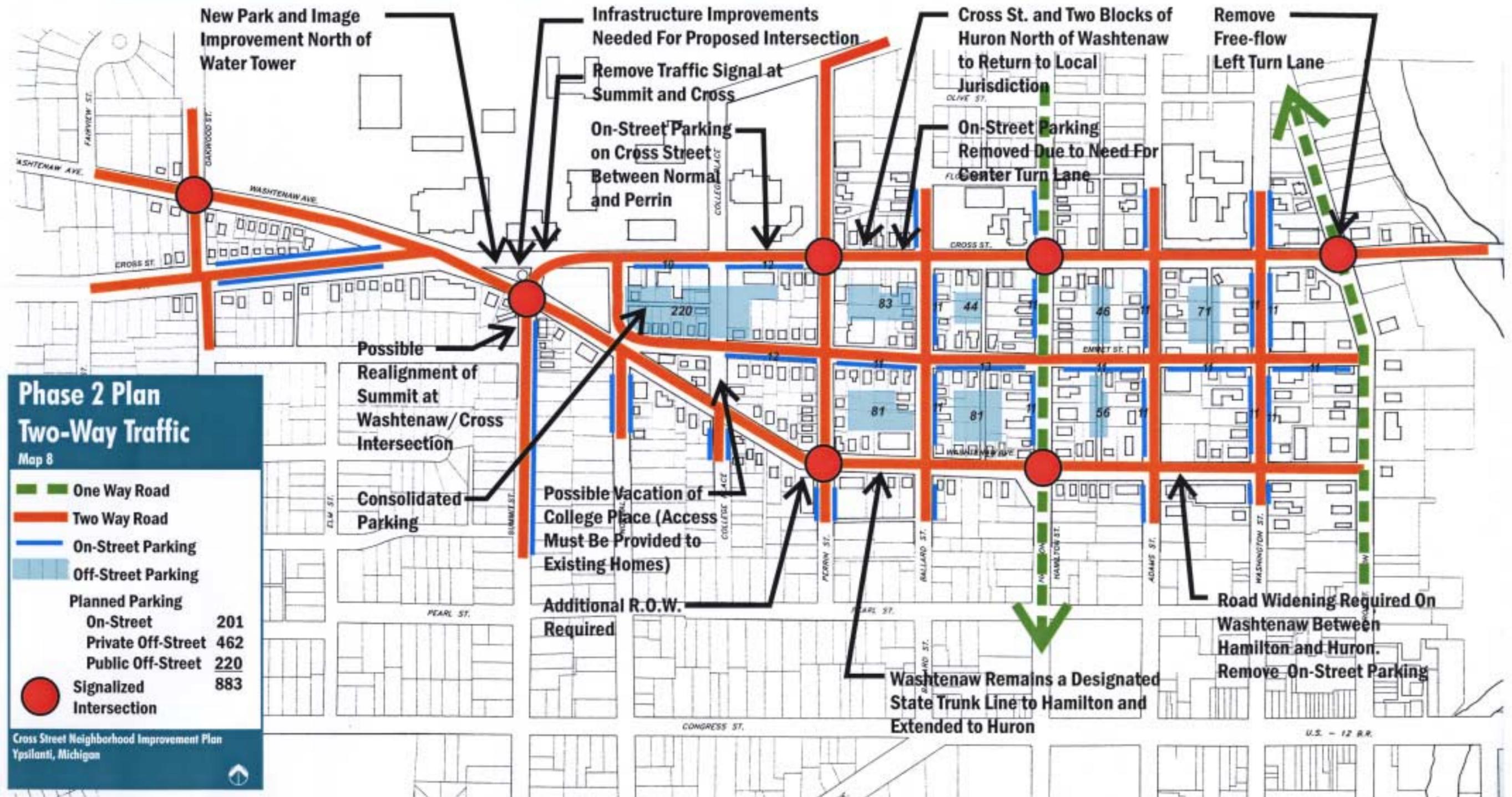




Figure 8: Intersection at Huron and Cross and pedestrian link to Riverside Park and Depot Town

Parking

In Phase 2, conversion of Cross Street to two-way traffic allows on-street parking only within the area between Perrin and Normal, due to the need for a center turn lane. The remaining sections of roadway do not allow enough room for two lanes of traffic, a center turn lane, and on-street parking. This reduces the number of on-street parking spaces from 68 in Phase 1 to 22 in Phase 2. These spaces will provide convenient access to shops. Most of the commercial parking would be relocated to the new consolidated, off-street parking areas behind the businesses. Shared parking arrangements should be explored with EMU and the planned 260 space parking deck at Perrin. Parking on Washtenaw would also be eliminated in Phase 2 and converted to two travel lanes and a center turn lane.

Traffic Signal Location

The proposed Phase 2 traffic operations system consists of two-way operations with one lane in each direction and a center left-turn lane (with limited parking on the south side of Cross Street between Normal and Hamilton). Improving on the Phase 1 traffic signal plan, one new traffic signal will be added at Hamilton and Washtenaw. The realignment of Cross at Summit would remove the need for the existing traffic signal.

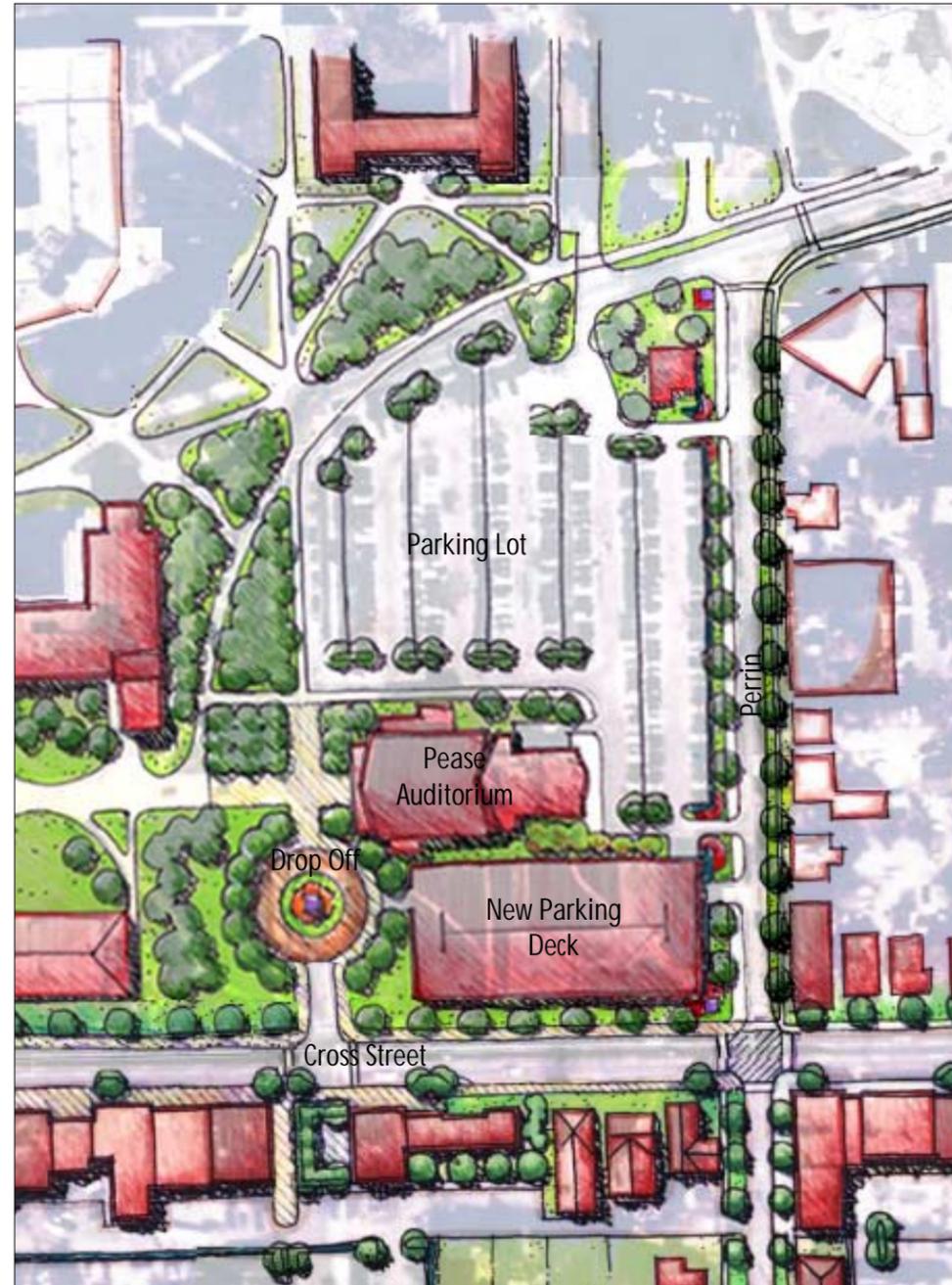


Figure 9: Parking layout for Eastern Michigan University. On-street parking would be located along Cross from Normal to Perrin and would be removed from Perrin.



Figure 10: Routes to the EMU can be enhanced through landscaping, street furniture and wayfinding signage.

Changes to the intersection of Huron and Cross would promote safety for pedestrians. The existing free-flow left turn signal would be removed upon the conversion of Cross to two-way traffic. Two-way traffic will require a four-way traffic signal, allowing for the construction of prominent crosswalks in this location.

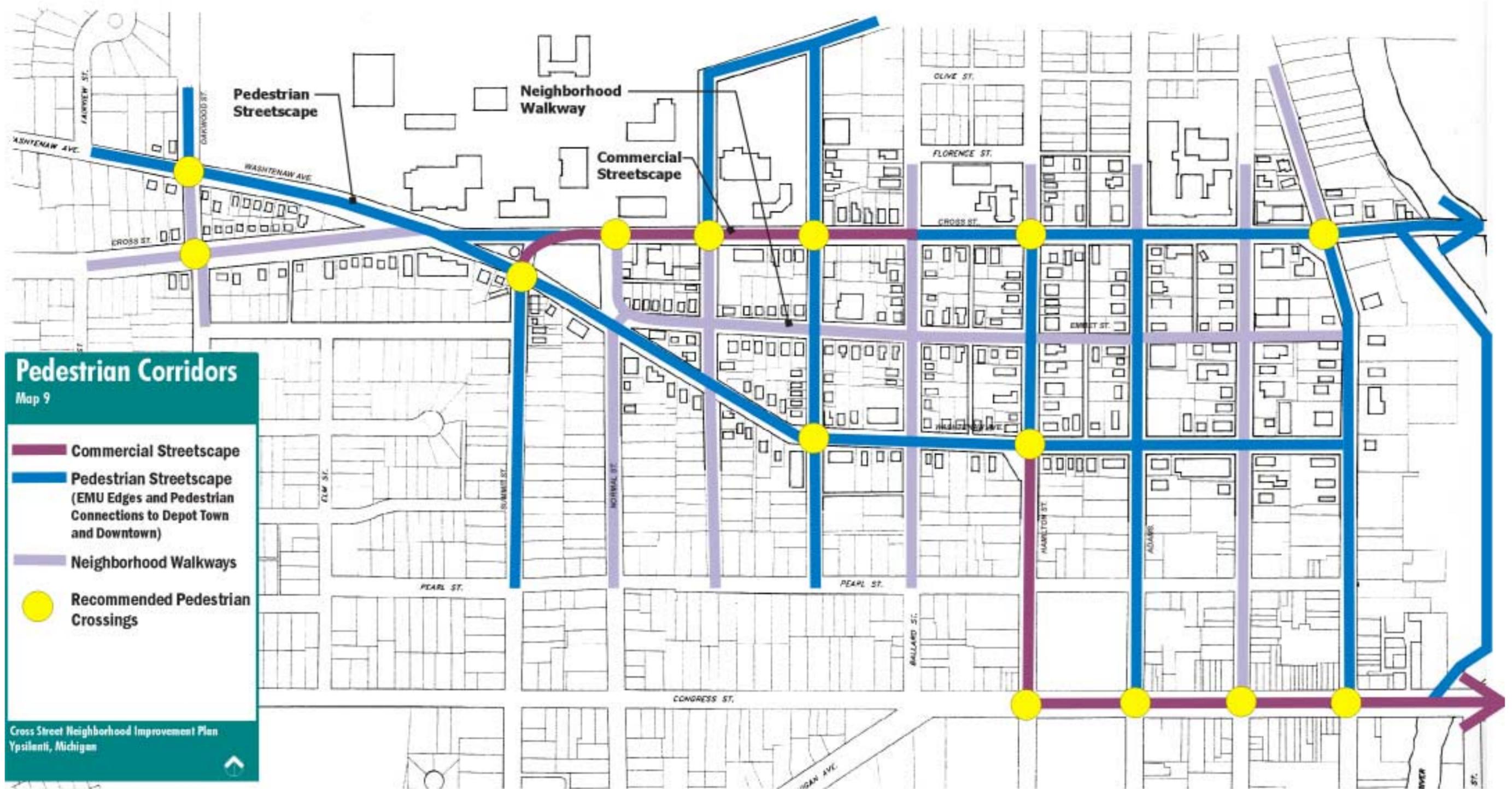
Image Improvements
Phase 1 and Phase 2

Streetscape and image improvements along Cross and Washtenaw will give new life and a unifying character to the commercial district. Landscape, lighting, site



Above: Washtenaw is an ideal location pedestrian friendly streetscape improvements.

furnishings, signage and façade treatments all must be addressed. The War Memorial “The Hiker” and Demetrius Ypsilanti statue are special character attributes of the district that currently are lost in the traffic and road network. The setting for these monuments should celebrate the City’s rich heritage. They need to be enhanced with landscaping and special accent lighting, or possibly moved to more prominent locations. Public access to Riverside Park and Frog Island Park along the Huron River should be enhanced to encourage Cross Street Neighborhood residents to use them as recreational amenities. A potential median at Washtenaw and Oakwood, utilizing landscape enhancements and gateway signage should be explored further to determine if traffic capacity can still be maintained.





Above: Commercial streetscape improvements .

Designated pedestrian routes would be implemented along Cross, Washtenaw, Emmet, Hamilton and Adams with improved sidewalks, landscape treatments, new pedestrian amenities, way-finding signage and enhanced special down or directed lighting to improve pedestrian connections from the Cross Street neighborhood to Downtown and Depot Town. Improvements would be installed on an ongoing basis throughout Phase 1 and Phase 2 based on financing availability.

A variation in the level of streetscape improvements is recommended. Commercial streetscape improvements are planned on Cross between Summit and Ballard, with the remaining segments of Cross, Washtenaw, Emmet and Adams planned with less intense pedestrian streetscape improvements.



Above: Pedestrian streetscape improvements .

Commercial streetscape improvements would include coordinated street furniture, lighting, landscaping, signage, on-street parking, cross-walks, banners, special paving and tree grates.

Pedestrian streetscape improvements, along primary routes of pedestrian travel, would include way-finding signage, cross-walks, security lighting, street tree plantings, as well as shrub and perennial plantings at designated intersections, bus stops, and other selected areas to highlight or screen existing attributes within the study area.

Neighborhood walkway improvements would include cross-walks, street tree replacements, tree pruning and street lighting improvements. Canopy trees with



Above: Residential streetscape improvements .

spacing of not more than forty feet on-center are encouraged for all the streets, with additional landscape accents for prime travel corridors and commercial areas that enhance the area’s image and pedestrian experience. This includes prominent pedestrian crossings at signalized intersections. Additional crossings could be marked and designated in clearly visible locations, if necessary to address popular pedestrian destinations.

Extending the streetscape improvements along Cross to Depot Town would enhance the pedestrian route between the neighborhoods, EMU and Depot Town. Engineering studies will be required to determine if the Cross Street bridge can accommodate the additional weight required to narrow the existing

traffic lanes on the bridge to create space for wider sidewalks and median. A median extension, east of Huron to the bridge, was also suggested to further connect Depot Town to West Cross Street, enhancing the entry to Depot Town.



Left: Existing Entrance to the Cross Street Neighborhood at Washtenaw and Cross
Below: Proposed Entrance Image to the Cross Street Neighborhood



Circulation Improvement
Policies, Goals and Objectives

Goal 1:

Establish a traffic circulation pattern that does not drastically reduce the existing levels of service while integrating traffic-calming measures

Short Term Action:

- Explore other two-way options that will not have large financial implications.
- Initiate engineering plans to implement two-way traffic on both Cross and Washtenaw, and other identified traffic reconfigurations, in preparation for Phase 2 of the circulation improvement plan.
- Eliminate one travel lane on both Cross and Washtenaw.
- Install on-street parking on the south side of Cross and Washtenaw at specified locations.
- Eliminate the Emmet and Washtenaw intersection.
- Draw up an agreement with MDOT to convert Cross Street to a city arterial while Washtenaw Avenue remains the State Trunk Line in the area.
- Relocate the traffic signal at Washtenaw and Ballard to Washtenaw and Perrin.
- Convert local streets in the Cross Street Neighborhood, with the exception of Hamilton and Huron, to two-way traffic.
-

Long Term Action:

- Construct the new Washtenaw and Cross/Summit intersection.
- Eliminate the free flow left-turn at northbound Huron.

Goal 2:

Install traffic lights and upgrade or coordinate existing traffic signals or intersections where warranted to improve safety, without unduly

restricting the movement of traffic along Cross Street and Washtenaw Avenue and within a reasonable cost.

Short Term Action:

- Determine costs for new traffic signals and/or existing signal improvements.
- Relocate the traffic signals at Cross and Ballard and Washtenaw and Ballard to Cross and Perrin and Washtenaw and Perrin.
- Install new traffic signs.
- Improve signal timing of existing traffic lights.
- Install and adjust pedestrian call signals for user groups such as seniors.

Long Term Action:

- Install new traffic signal at Hamilton and Washtenaw upon implementation of the two-way circulation system.
- Monitor crash and traffic crash rates and levels of service at locations where signals were installed. Continue to monitor locations where traffic signals were not warranted.

Goal 3:

Improve, relocate or provide bus stops where appropriate to provide more effective, user-friendly areas for transit users.

Short Term Action:

- Identify bus stop locations that are not user-friendly, and partner with the AATA to improve or relocate these bus stops to more pedestrian-friendly and longer usage locations off local streets.
- Work with the AATA to reroute bus routes from Adams to Huron.

Long Term Action:

- Work with existing businesses and the AATA to partner together in providing additional safe, convenient, and well-lit bus shelters along Cross Street, Washtenaw Avenue, Hamilton and Huron.
- Explore ways to partner with AATA to promote Cross Street businesses and build ridership.

Policy Statement:

Maintain a safe, quality street network which operates at an acceptable level of service, is aesthetically pleasing, is considerate of pedestrians and bicyclists and ensures traffic on residential streets harmonize with the neighborhood.

- Encourage new developments to incorporate the provision of transit amenities.
- Encourage agreements between Cross Street businesses and the AATA to provide and/or sponsor benches at certain locations.

Goal 4:

Provide a safe and well-connected pedestrian system that links the residential and business areas with transit stops, parks, schools, and community centers; and can be built at reasonable expense.

Short Term Action:

- Install prominent pedestrian crosswalks along Cross at Summit, College Place, Perrin, Hamilton, Adams, and Huron, as well as on Washtenaw at Normal, Perrin, Hamilton and Adams.
- Apply for grant funding for crosswalk and pedestrian network on Cross Street to enhance links with the Huron River, Frog Island and Riverside Park.

Long Term Actions:

- Relocate the pedestrian crosswalk at Cross and Summit to Washtenaw and Summit.
- Assess the success of the pedestrian system to this point. Seek funding and install or relocate pedestrian crosswalks where needed.
- Improve curb cuts in the neighborhood and surrounding neighborhoods to promote pedestrian access.

Goal 5:

Create a comfortable, secure, and pleasant environment for pedestrian and non-motorized vehicle activity.

Short Term Action:

- Initiate a streetscape improvement plan for Cross Street and Washtenaw. The plan should specify landscaping, street furnishings and additional capital improvements.

- Apply for funding for streetscape improvements from both public and private funding agencies.
- Ensure all new developments utilize “Crime Prevention Through Environmental Design” (CPTED) principles.
- Install bike parking at safe and convenient locations.
- Require the location and design of pedestrian and non-motorized vehicle areas to be safe, well-lit, and landscaped.
- Ensure all sidewalks are ADA compliant (ramps, width, obstructions).

Long Term Action:

- Implement a streetscape improvement plan for Cross Street and Washtenaw; identify primary and secondary streetscape improvements. Install appropriate landscaping, street furnishings and additional capital improvements.
- Create a signature park at the historic Water Tower.



20 Year Vision For The Cross Street Neighborhood
Map 10
Cross Street Neighborhood Improvement Plan
Ypsilanti, Michigan

