

IV
ALTERNATIVES & RECOMMENDATIONS

The recommendations that follow were developed through discussions with local community leaders, local agencies and a carefully crafted Public Involvement Plan. On June 11, 2012, the recommendations put forth based upon input from key stakeholders and public input were presented at an open house. Attendees were welcomed to review the recommendations and provide comments that ultimately helped refine the final plan.

Access Management

Introduction - Why Manage Access?

The principal goal of the Business Route 62 Corridor access management effort is to develop a plan that the local jurisdictions and PennDOT can implement to make the business corridor a safer and more efficient transportation facility for all users in the future. This plan shall respect the character of the Cities while preserving the quality of life for residents, merchants, and visitors of the community.

According to studies conducted by the National Highway Institute, “An effective access management program can reduce crashes as much as 50 percent, increase roadway capacity by 23 to 45 percent, and reduce travel time and delay as much as 40 to 60 percent.”

In order to achieve this goal, it is important to understand the connection between the transportation network and the adjacent land use that it serves. The national [Access Management Manual](#) refers to this relationship as the *Transportation – Land Use Cycle*, as shown at the bottom of the page.

Access management strategies delay or even halt this cycle by maintaining a balance between the Land Use Change stage and the Increased Traffic Conflict stage. As illustrated in the diagram, increased traffic generation is a direct result of Land Use change. Local municipalities have in place official planning documents such as Comprehensive Plans, Master Plans, Zoning Ordinances, and Subdivision Regulations that govern how and where land should (or should not) be developed. To effectively manage the transportation and land use cycle, both PennDOT and the local agencies must address both the transportation system and the adjacent land development.

The intent of the Access Management Plan is to provide PennDOT, and the local Officials and Planning Boards, a framework for assisting with decision-making regarding access, circulation, and safety for future development along the corridor.

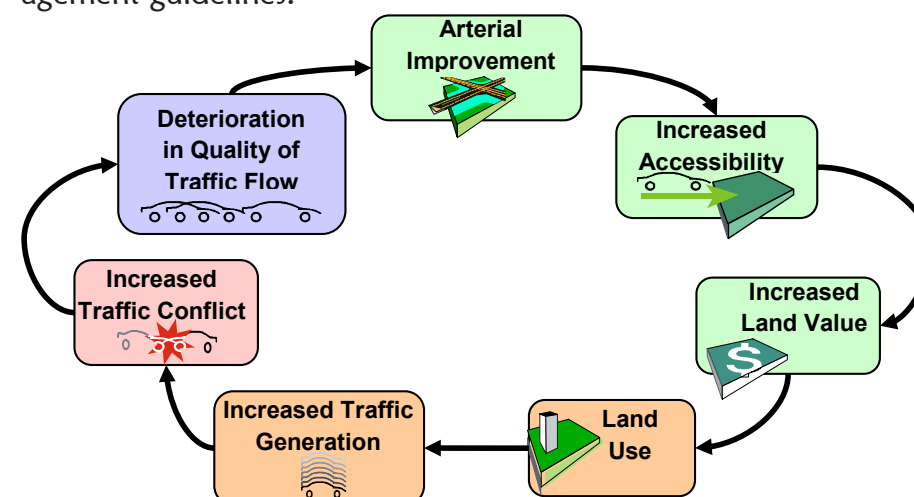
Specific objectives include:

- Minimize number of access locations
- Increase access spacing
- Reduce through traffic conflicts
- Provide greater accessibility and connections for all users
- Manage traffic signal and intersection control
- Provide language in local codes that supports implementation of access management techniques and strategies along the corridor

Corridor Access Management Concept Plans

Using these core planning strategies and objectives, detailed access management concept plans were developed, applying many of the techniques and tools contained in PennDOT’s Access Management Model Ordinances for Pennsylvania Municipalities Handbook.

It should be noted that much of the Business Route 62 corridor is developed, and therefore in the future, as redevelopment occurs, requires mostly retrofit strategies that eliminate multiple driveways to the same property; combines adjacent driveways into one shared driveway; and relocates the driveways to a local street rather than State Street. For undeveloped properties, direct access to State Street should follow PennDOT’s applicable access management guidelines.



Zone 1 – The Irvine Avenue Gateway Zone is predominantly residential and requires minimal access management techniques and considerations for improved safety and access, beyond the Irvine Avenue intersection gateway treatment developed and previously discussed.

Zone 2 – Sharon CBD consists of short blocks, existing traffic signals, on-street parking and few driveways; and thus requires ongoing management of signal operations, intersection control and pedestrian crossing enhancements, as identified and discussed in the Sharon Downtown Plan.

Detailed access management concept plans were developed for Zones 3, 4, 5 and 6 of Business Route 62 corridor. Figure 56 illustrates many of the retro-fit strategies and concepts applied to the City of Sharon Transition – Zone 3. Concept plans for the remaining zones are included in the Appendix of this report.

In order to advance and implement access management on a consistent, corridor-wide basis, local municipalities must develop supporting access management ordinances and regulations, tailored to fit each municipality, yet still provide the regional benefits, in terms of improved travel and safety for motorists along the entire Business Route 62 corridor.

The following sections outline the current regulatory language pertinent to access management considerations in each community, followed by recommendations for regulatory changes for implementation.

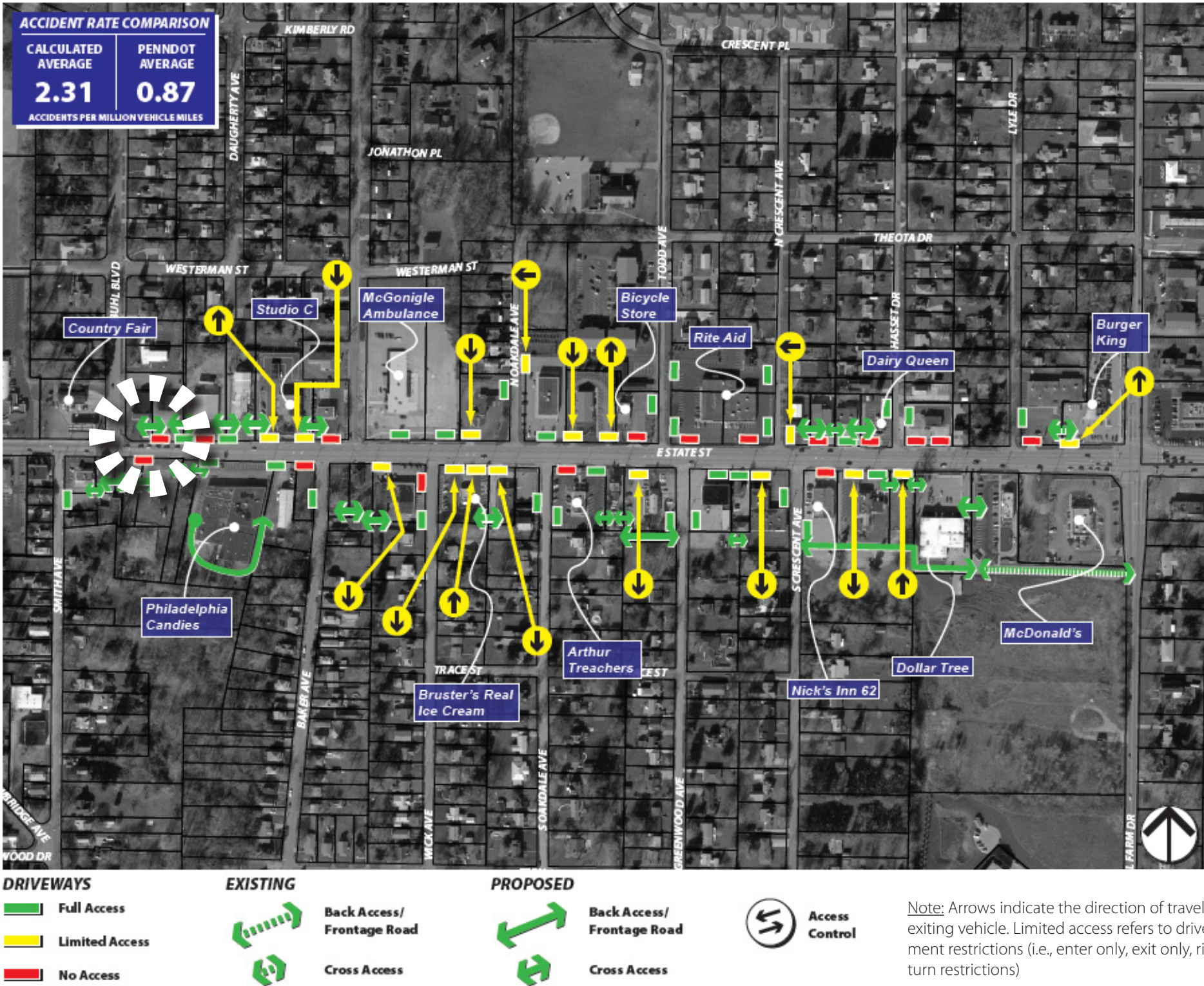
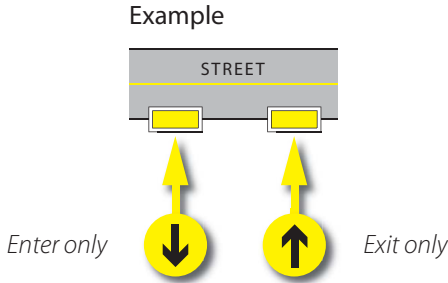


Figure 56: Access Management Plan (Zone 3)



Access Management Regulatory Recommendations

The following is a summary of the existing access management provisions contained in the City of Sharon's and Hermitage's zoning codes.

City of Hermitage

In order to obtain a Conditional Use in the Institutional-3 Zoning District, "a traffic study shall be submitted illustrating a traffic plan for the proposed development which includes analysis of traffic flow on surrounding properties, and also properties across the street or highway from the proposed use. The traffic study and site plan shall integrate the traffic patterns of the proposed development into the overall area. The traffic analysis and design must include an access management component which minimizes the number of individual driveway access points on major highways, including sharing of driveway access with adjoining properties wherever possible."

The Route 18 South Overlay District contains the most extensive and specific access management requirements within Hermitage. These include:

- Minimum spacing between driveways on Route 18 shall be 150 feet, measured from centerline to centerline. Shared driveways between parcels shall be used where necessary to meet this requirement. Where two or more adjacent property owners agree to combine driveway access points, the City may grant 15% reduction in required parking spacing for each use.
- Wherever possible, driveways should have direct alignment with driveways or roads on the opposite side of the highway or street.
- Parking areas shall be connected to adjacent parcels through rear or side yard access drives.

The Route 18 South Overlay District begins to manage access in one geographic area of the community. At a minimum, it is recommended that Hermitage expand the extent of these provisions to include Business Route 62 as well as other highway oriented commercial corridors within the community.

City of Sharon

The City of Sharon defines shopping centers or large-scale retail facilities as, "structures erected for three or more principal permitted uses within a business district." Sharon has special requirements for shopping centers including:

- Access to a shopping center or large-scale retail facility shall be from an arterial or collector street.
- No more than one entrance and exit per 150 feet of frontage will be permitted.
- Shared access drives with neighboring properties are encouraged.

A review of auto oriented, commercial corridors throughout the country indicates that the largest contributors to the proliferation of curb cuts are single use developments. These include stand alone restaurants, drug stores, retail establishments, and office buildings. This also true of Business Route 62 within the study area. In other words, single use developments, each with one or more driveways are the dominant land use along the Business Route 62 corridor outside of the central business district. As a result, Sharon's emphasis on controlling access for shopping centers and large scale retail facilities only applies to a small number of parcels and fails to adequately address the full range of access management needs within the study area.

The following Access Management Overlay District was developed specifically for Sharon and Hermitage. It is provided as a template for both cities to consider adding to their existing zoning codes. The provisions of this overlay district can be integrated into the current regulatory framework in one of three ways:

- Option 1: Amend the existing non-residential zoning districts along Business Route 62 to include some or all of the provisions of the overlay district;
- Option 2: Create an overlay district for Business Route 62, similar to the Route 18 South Overlay District in Hermitage; or
- Option 3: Apply the overlay district to all non-residential or commercial zoning districts throughout the City.

Based on the input received throughout this study, option one is recommended at this time.

Intent & Purpose

The purpose of the Business Route 62 Access Management Overlay District (AMOD) is to manage access to property along Business Route 62 in a manner that preserves the safety, efficiency, development potential, and character of the highway corridor within the Cities of Sharon and Hermitage. Specific purposes are as follows:

1. To protect the safety of motorists traveling along Business Route 62 and its crossroad intersections and preserve the efficiency of traffic flow along the corridor;
2. To preserve and enhance development options along the corridor and promoting development of unified access and circulation systems that serve more than one property;
3. To assure that driveways and street connections along Business Route 62 are designed according to standards for safe entry and exit and are adequately spaced, and
4. To promote cooperative planning and coordination between area property owners and the many agencies that have an interest in the Business Route 62 corridor, including but not limited to the cities of Sharon and Hermitage, Mercer County, and the Pennsylvania Department of Transportation (PennDOT).

Applicability

The AMOD shall apply to a distance of 1,000 ft from the centerline on both sides of Business Route 62 beginning at the western boundary of the City of Sharon and terminating at its intersection with North Keel Ridge Road.

These regulations shall be in addition to all other existing regulations of the two cities and PennDOT. Persons with property divided by the highway overlay district or that do not have frontage but request an access connection in the affected area must comply with the district standards. This district does not change the zoned use of property. Permitted, conditional, or specially permitted uses in the overlay district shall be as provided for in the existing underlying zoning districts.

Connections permitted prior to the adoption of the AMOD shall be allowed to remain and will be considered legal and conforming until such time as there is a significant change in the use of the property (including the development of land, structures or facilities) that results in an increase in the trip generation of the property. If the principal activity on a parcel with access connections that do not meet the regulations herein is discontinued or out of service for a period of one year or more, then that parcel must comply with all applicable access requirements of this overlay district.

Submission Requirements

In order to ensure that a proper review for access considerations can be conducted by Sharon, Hermitage and PennDOT, the following information should be required by property owners as part of a site plan review application:

- Location of access point(s) on both sides of the road where applicable;
- Distances to neighboring constructed access points, median openings, traffic signals, intersections, and other transportation features on both sides of the roadway;
- Number and direction of lanes to be constructed on the driveway plus striping plans;
- All planned transportation features (such as auxiliary lanes, signals, etc.);
- Trip generation data or appropriate traffic studies;
- Parking and internal circulation plans; and
- Plat map showing property lines, right-of-way, and ownership of abutting properties.

This list is not intended to be exhaustive or to supplant the existing submission requirements of Sharon and Hermitage but rather augment them.

Access Provisions

Access to US Route 62 shall be provided by direct or indirect means, consistent with the following requirements:

Number of access points: Each tract of land recorded prior to effective date shall be permitted one point of direct or indirect access to the public roadway system, provided that such access conforms to the minimum driveway spacing and corner clearance requirements the AMOD. Where the roadway frontage of a tract of land is greater than 500’, an additional access point may be permitted, if it is determined in consultation with PennDOT that such access will not be detrimental to highway safety, capacity, or function. Any such additional access shall comply with all applicable sections of this ordinance. Individual property access shall not be provided to Business Route 62 where alternative access is available. Where multiple parcels are developed as a single project, such as a shopping center or similar use, they shall be treated as a single parcel for the purposes of determining the permitted number of access points. For the purposes of the AMOD, the limits of Sharon’s central business district (CBD) are defined as Business Route 62 situated between Irvine Avenue and Sharpsville Avenue. Within the CBD for Sharon, driveway access to the roadway may not always be possible, appropriate, or permissible. In this area, the community and PennDOT shall review requests for access based on the potential for shared access, the need for parking, desired corner clearance, and driveway spacing.



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Commentary

Much of Business Route 62 is already developed, making it difficult to implement driveway spacing requirements, especially with small lot sizes and frontages. The PennDOT Access Management Model Ordinances recognizes this challenge and suggests spacing standards be developed based on the posted speeds.

Minimum driveway spacing is to be measured from the end of one driveway radius to the beginning of the next driveway radius. All direct access connections to Business Route 62 shall meet or exceed the minimum desirable spacing requirements* listed below:

- 150 feet for a posted speed limit of 35 mph or less

* There are no minimum driveway spacing requirements for the development of one single family dwelling within the AMOD. However, the access drive or local street that serves a development of more than five single family residences must meet these standards.

Where the existing configuration of properties and driveways in the vicinity of a parcel or site precludes spacing of an access point in accordance with those listed above the Planning Commission, in consultation with PennDOT, may waive the spacing requirement if all of the following conditions have been met:

- A joint use driveway will be established to serve two or more abutting building sites;
- The building site is designed to provide cross access and unified circulation with abutting sites with cross access easements, and
- The property owner signs an agreement to close any pre-existing curb-cuts that do not meet the requirements of the AMOD after the construction of both sides of the joint use driveway, and agrees to enter a joint maintenance agreement defining maintenance responsibilities of property owners that share the joint use driveway and cross access system.

In the event that the characteristics or layout of abutting properties would make development of a unified or shared access and circulation system impractical, the Planning Commission may modify or waive these requirements.

Joint & Cross Access: Adjacent commercial or office properties and compatible major traffic generators (i.e. shopping plazas, office parks, apartments, etc.) shall provide a cross access drive and pedestrian access way to allow circulation between sites. This requirement shall also apply to a new building site that abuts an existing developed property unless the locality finds that this would be clearly impractical. Property owners shall record a cross access easement and a joint maintenance agreement with the public records office.

Property owners that provide for joint and cross access may be granted a temporary driveway connection permit, where necessary, to provide reasonable access until such time as the joint use driveway and cross access drives are provided with adjacent properties. All necessary easements and agreements shall be recorded with the deed to the property, including:

- An easement allowing cross access to and from the adjacent properties;
- An agreement to close and eliminate any pre-existing driveways provided for access in the interim after construction of the joint-use driveway, and
- A joint maintenance agreement defining maintenance responsibilities of property owners that share the joint use driveway and cross access system.

Minimum corner clearance is to be measured along the road from the closest edge of the right-of-way of the intersecting road to the closest edge of the proposed driveway. Preferably, driveways for a corner property should be located on the roadway with the lower functional classification or as close to the property line farthest from the intersection as is possible. Desirable driveway connections to Business Route 62 for corner properties shall not be allowed within 150 feet of an intersection. For side street approaches to Business Route 62, the minimum corner clearance shall be 110 feet. At signalized intersections, corner clearances in excess of these minimum dimensions may be required, in consultation with PennDOT. These standards may not be possible or desirable within Sharon’s CBD. Within the CBD, corner clearance may be reduced based upon a traffic study that shows peak hour queue lengths will not extend past the proposed driveway location.

Outparcels: An outparcel can be described as a parcel of land, generally located on the perimeter of a larger parcel of commercial land that is subordinate to the larger parcel for access, parking and drainage purposes. All access to outparcels shall be internalized utilizing the main access drive of the principal commercial center. Access to the outparcel shall be as direct as possible, avoiding excessive movement across the parking aisles and queuing across surrounding parking and driving aisles. In no instance shall the circulation and access of the principal commercial facility and its parking and service be impaired.

New residential subdivisions: Residential subdivision consisting of more than five units, shall include an internal street layout that shall connect to the streets of surrounding developments to accommodate travel demand between adjacent neighborhoods without creating the need to use Business Route 62.

Shared access and reverse frontage: Interparcel connections shall be provided to facilitate the local movement of traffic and minimize demand for local trips on the highway. Based on consultation with the PennDOT, interparcel access may take the form of direct driveway connections or reverse frontage roads.

Pedestrian access: On site pedestrian walkways shall be incorporated into each project and shall be coordinated with on-site landscaping so as to minimize conflicts with vehicular traffic. Pedestrian circulation systems shall be provided to connect multiple uses within individual projects, and shall be extended to adjacent parcels where inter-parcel vehicular access is required. Where pedestrian access crosses an access drive (such as crossing from a parking aisle to a building entrance), crosswalk improvements shall be required. In the event that a public sidewalk is adjacent to the property, the pedestrian circulation system should connect to the existing sidewalk system.

Driveway Location & Design

1. Driveway connections shall be located and designed to provide adequate sight distance. PennDOT standards for sight distance shall apply.
2. PennDOT, in coordination with the municipality, may require turn lanes where deemed necessary due to traffic volumes or where a safety or operational problem exists. The design of left-turn and right-turn lanes shall conform to PennDOT design standards.
3. Construction of driveways along turn lanes and tapers is prohibited unless no other access to the property is available.
4. Driveways with more than one entry and one exit lane shall incorporate channelization features to separate the entry and exit sides of the driveway. Double yellow lines may be considered instead of medians, where truck off-tracking is a problem.
5. Driveways shall be designed with adequate on-site storage for entering and exiting vehicles to reduce unsafe conflicts with through traffic or on-site traffic and to avoid congestion at the entrance. Guidelines for driveway throat length are provided below:
 - For minimum use driveways, the throat length shall be a minimum of 25 feet;
 - For low volume driveways, the throat length shall be a minimum of 50 feet or as determined by a queuing analysis;
 - For medium volume driveways, the throat length shall be a minimum of 120 feet or as determined by a queuing analysis; and
 - For high volume driveways, the throat length shall be a minimum of 150 feet or as determined by a queuing analysis

Roadways, Intersections & Gateways

Traffic Signal Timing & Coordination Plans

Signal coordination is the process used to synchronize the start of the “green light” along the major roadway (e.g., eastbound/westbound State Street), so that vehicles can travel through a group of signals with minimal or no stopping. There are three key timing parameters to make signal coordination work and are noticeable to the driver. These include the “cycle length”, intersection “offset,” or progression, and the individual traffic movement “green + yellow + red” phase (referred to as a movement “split”). The cycle length is the total time to complete one sequence of all movements around an intersection and is the most important parameter.

The individual movement (e.g., left turn arrow at State Street/Hermitage Road) split is the sum of the “green time + yellow interval + red clearance interval). The movement split represents a percentage of the total cycle length. The movement splits are timed to clear all waiting motorists on a typical day. However, the total amount of split is constrained by the cycle length and other conflicting movements; therefore need to be balanced by the proportion of traffic volume at the intersection.

The offset is the time between the start of the “green light” at one intersection and the start of “green light” at another intersection. The offset defines the movement of traffic along the arterial, also referred to as “progression.” The offset is very important to observe and fine-tune in the field to real traffic speeds and conditions to help reduce stops and slowing.

Signal coordination requires synchronized time clocks, communication between intersections and the appropriate infrastructure/hardware to allow the timing plans to efficiently operate. The primary goal of signal timing is to respond to the demands of all types of motor vehicles, bicycles and pedestrians in an optimum or balanced manner. Although efficient signal coordination will achieve significant benefits, there are some impacts. Traffic flow and delays must be balanced throughout the system; therefore, trade-offs are always required. The biggest impact or trade-off with signal coordination projects is the lower volume cross-street movements could experience a slight increase in wait time.

Coordinated signal timing is one of the most cost-effective ways to improve traffic flow.

This is done by:

- Improving traffic flow through a group or series of traffic signals.
- Reducing the overall delay time at an intersection (Note: does not always equal to an individual motorist’s wait time).
- Accommodating for changes in traffic characteristics due to growth or new developments.
- Reducing motorist frustration and wear and tear on vehicles by reducing stops and delay.
- Improving safety by reducing the potential for rear-end crashes.
- Reducing response time for bus service and emergency vehicles.
- Postponing the need for costly road construction by improving traffic flow on the existing facility.

The traffic signals along State Street between Keel Ridge Road and Irvine Avenue are currently coordinated in several smaller groupings. The timings, phasing, and offsets in many cases have not been updated in many years. Congestion, and subsequently safety, can be improved by conducting a thorough review of the phasing, timings, and offsets throughout the corridor.

Synchro and SimTraffic computer models were utilized to evaluate and recommend appropriate signal timing plans for the corridor. Signal timing optimization was performed for the AM and PM peak time periods at the signalized intersections within the study area. The study area was broken into five separate signal coordination zones for the purpose of evaluation. These zones are based on the current signal timing coordination zones as well as the spacing of intersections and cycle lengths.

Signal Coordination Zones 1 and 5 include the intersections on the fringes of the study area: Shenango Valley Freeway, Hermitage Road, Shenango Valley Freeway (west end) and Addison Avenue; Keel Ridge Road is not

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coordinated with any other signals. In Zones 1 and 5, the existing timing plans are the best choice for these intersections. The controller settings should be updated at each intersection to re-implement the coordinated timing plans.

Signal Coordination Zone 2 includes the intersections from Maple Drive/ Dutch Lane to Buhl Farm Drive. The evaluation of zone 2 again indicates that the previous coordination plan is the most appropriate for these intersections. The controller settings should be updated at each intersection to re-implement the coordinated timing plans.

The intersections from Buhl Boulevard to Oakland Avenue make up Signal Coordination Zone 3. A new timing plan is recommended for Zone 3 which yields the following improvements in the measures of effectiveness (MOE's) for this zone:

AM PEAK HOUR	MOE	Signal Coordination Zone 3 Totals			
		Before	After	Net Reduction	Percent Improvement
	Stops (no. of veh)	2,251	2,035	216	9.6%
	Total Delay (hr)	17	16	1	5.9%
	Fuel Consumption (gal)	66	63	3	4.5%

PM PEAK HOUR	MOE	Signal Coordination Zone 3 Totals			
		Before	After	Net Reduction	Percent Improvement
	Stops (no. of veh)	2,965	2,695	270	9.1%
	Total Delay (hr)	18	18	0	0.0%
	Fuel Consumption (gal)	93	91	2	2.2%

Table 7: Measures of Effectiveness

Details of the new coordinated timing plan for Signal Coordination Zone 3 are included in the Appendix.

Signal Coordination Zone 4 consists of the intersections from Sharpsville Avenue to Irvine Avenue. These intersections are closely spaced in downtown Sharon. Evaluation of the current operating conditions indicates that these intersections are would operate efficiently under the current timing plan if the controller settings were up to date. The controller settings should be updated at each intersection to re-implement the coordinated timing plans.

Formal Gateway Enhancement Plans / Schematics

Gateways provide visual cues that you are entering a place of significance. Special attention must be paid to these areas because they provide first impressions and a sense of arrival. They are typically identified at points of transition that are defined by an edge; a physical barrier or boundary such as a river, highway, intersections, or major points of decision. Gateways can be as simple as landscaped sign installations that announce to motorists that they are entering a community or neighborhood or they can include a modern roundabout or an elaborate arch over the road.

Through the public process on this project, two locations were identified as key gateways for the Cities of Sharon and Hermitage: State Street at Shenango Valley Freeway and Irvine Avenue at Shenango Valley Freeway.

State Street & Shenango Valley Freeway

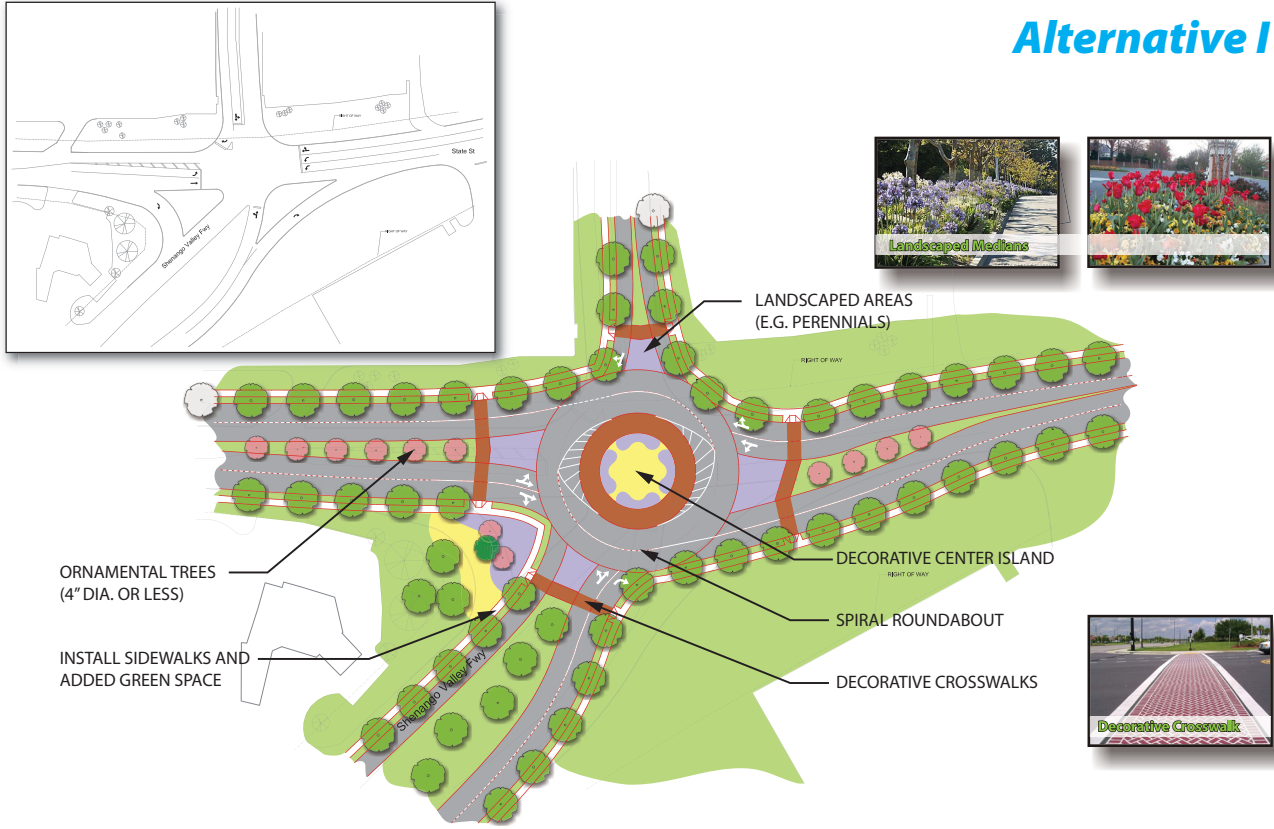
The existing State Street/Shenango Valley Freeway intersection is oversized and automobile oriented. It is designed for high speed travel with little or no pedestrian accommodations and minimal aesthetic value. This intersection can be transformed into a gateway that gives motorists and pedestrians alike a sense of arrival in Hermitage and the Shenango Valley. In the process, vehicular operations, pedestrian accommodations, and overall safety can also be improved. Two alternatives were explored to create a gateway treatment at this intersection.

Alternative I: Roundabout

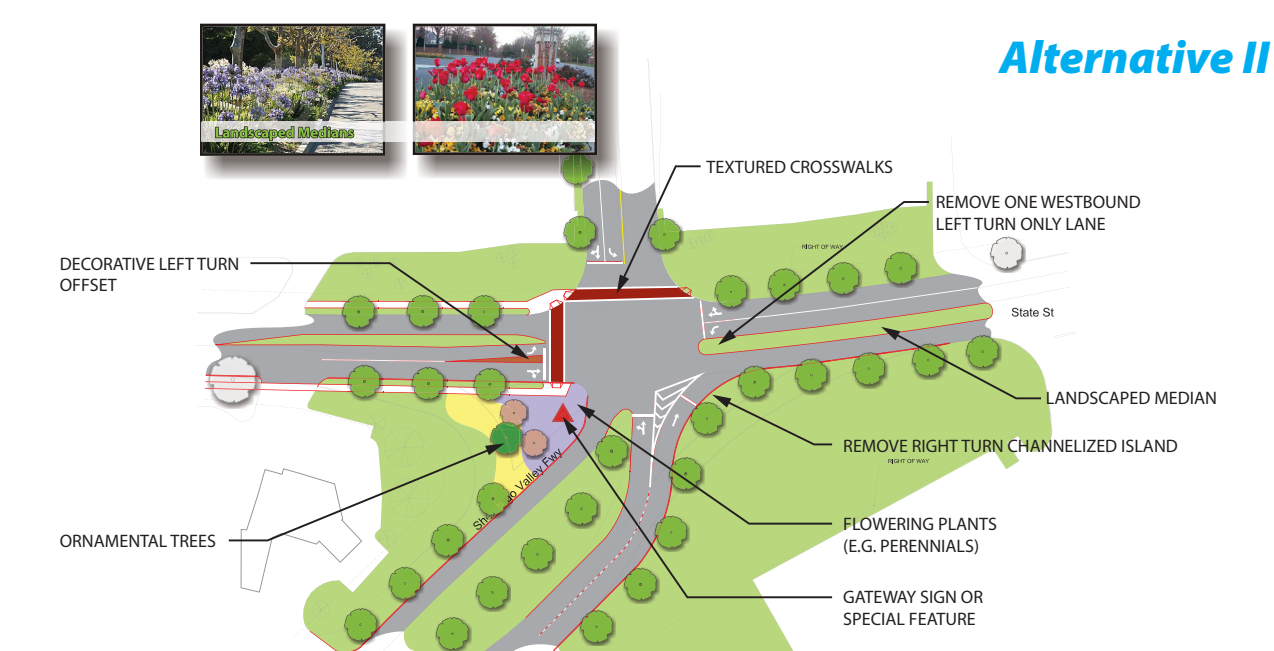
Alternative I converts the existing intersection to a modern roundabout. “Modern” roundabouts are a relatively new concept in the United States, but have widespread use and acceptance in European countries. The word “modern” as a qualifier to roundabouts is critical; there are vast differences between today’s “modern” roundabouts and “old style” rotaries and traffic circles, which were built in the US over the years. These rotaries/traffic circles fell out of favor as design considerations due to their inefficient and sometimes unsafe operation. Roundabouts have numerous benefits over traditional signalized intersections including:

1. OPERATIONS:
- Accommodates higher traffic volumes than traffic signals
 - Reduces delays
 - Improves travel times along a corridor
 - Effectively handles heavy left-turning traffic
 - Accommodates u-turns for cars and large trucks
 - Better access to businesses because of easier u-turns
2. DESIGN:
- Provides more landscaping opportunities
 - Typically provides overall cost savings
 - Allows for large vehicle passage via the “truck apron”
 - Slower speeds through intersections
 - Improved visibility and refuge for pedestrians crossing the roadway
3. MAINTENANCE:
- No traffic signal maintenance costs, electrical costs, or repair needs
 - No traffic impacts due to power outages
4. ENVIRONMENT:
- Fuel savings due to less delay and stopping
 - Reduces vehicle emissions due to reduced need for stopping
 - Reduces construction area on approaches that can save trees
 - Reduces storm water run-off due to reduced pavement area on approaches
5. SAFETY:
- Reduces vehicle crashes, particularly injury crashes
 - Lowers vehicle speeds
 - Fewer driver decisions; traffic only comes from one direction when entering
 - Fewer conflict points
 - Reduces conflict severity; no right-angle or head-on conflicts
 - Safer pedestrian crossings due to reduced distances, lower speeds, better visibility

Existing Conditions



Alternative I



Alternative II

Figure 57: Shenango Valley Freeway Gateway
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EXISTING INTERSECTION

In addition to all the benefits associated with roundabouts, a roundabout provides a unique opportunity for a dramatic gateway treatment. The roundabout can include enhancements such as landscaped areas, enhanced crosswalks, and a decorative center island where a gateway sign could be located.

Alternative II: Traditional Intersection

Alternative II re-designs the intersection into a more traditional signalized intersection. One of the westbound left turn lanes would be removed, eliminating the existing dual left turn movement. This movement can be accommodated within a single left turn lane

with appropriate re-timing of the signal. The existing right turn channelized islands on the eastbound and northbound approaches would also be removed. These right turn movements would become a part of the signalized intersection. These changes provide a more efficient intersection operation while slowing traffic through the intersection and providing a safer pedestrian environment.

Removing the eastbound channelized right turn provides additional green space and a great location for a gateway sign or special feature on the southwest corner of the intersection. Additional landscaping and enhanced crosswalks provide a safer and more inviting pedestrian environment.

Recommendation

Based upon public input received and evaluation of the options, Alternative I: the roundabout, is the preferred Alternative. Maximum safety, operational, and aesthetic benefits are realized with this alternative. See Figure 57 on the previous page for the detailed illustration of the recommendations.



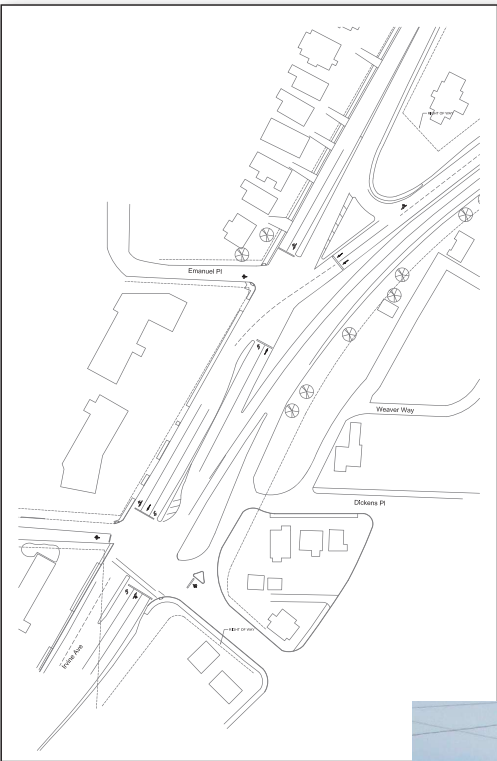
PROPOSED ROUNDABOUT
VIEW FACING WEST

ingalls
planning & design

Proposed Plan View



Existing Conditions



Irvine Avenue & Shenango Valley Freeway

The existing Irvine Avenue/Shenango Valley Freeway intersection is designed to favor vehicles traveling to and from Shenango Valley Freeway. It is oversized for its capacity needs, aesthetically unpleasing, and unfriendly to pedestrians. This is the first major intersection that a motorist arrives at when entering Pennsylvania from Ohio on Irvine Avenue.

Currently Irvine Avenue provides two southbound and two northbound travel lanes at Shenango Valley Freeway. The intersection can operate more efficiently with one southbound travel lane and a northbound exclusive left turn lane and separate through lane. This allows the intersection to become narrower providing space for a landscaped

median treatment and landscaped buffer space between the sidewalk and the edge of pavement.

Modifications at the Addison Avenue intersection similarly result in a narrower geometry on Irvine Avenue providing space for a landscaped median and landscaping along the side of the road. In addition, an enhanced crosswalk is recommended on the northbound approach to the intersection. At the northeast corner, Emanuel Place can be closed off from Addison Avenue creating a location for landscaping a gateway treatment such as a sign.



Figure 58: Irvine Avenue Gateway

Advanced Concept Level Intersection Geometric Improvement Plans

Thoughtfully designed intersections are essential to moving people and vehicles safely and efficiently. In areas of high volumes of pedestrian and vehicle traffic, it becomes a challenge to design for all modes of travel. The following recommendations address existing deficiencies and/or improve upon operating conditions and aesthetics for all modes of travel.

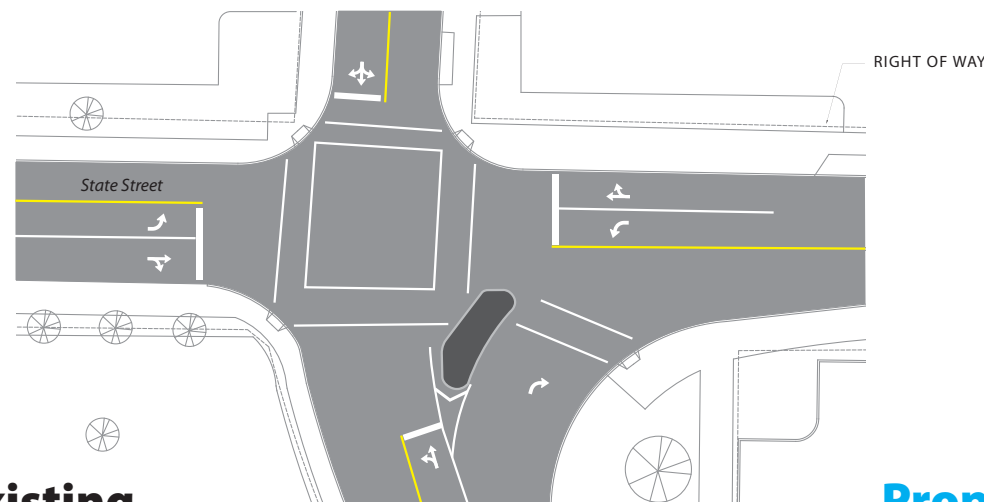
Stambaugh / Euclid Avenues

The intersection of Stambaugh / Euclid Avenues and East State Street presents a unique challenge in that there are high volumes of school children, as well as high volumes of vehicular traffic. Nearby land uses are primarily commercial, along with St. Joseph's church and the Sharon Regional Health System.

Recommendation

- The refuge island on the southeastern portion of the intersection should be removed. Currently, it is designed as an auto-centric island, rather than a pedestrian-centric refuge.
- Concurrently, the southeastern curb radius should be reduced to provide a shorter crossing distance for pedestrians between the southwestern and northeastern corners of the intersection.
- Additional green space can be installed on the southeastern corner, along with new sidewalks. The buffer space along the southbound side of the roadway should be increased through curb relocation.
- All around the intersection, street trees should be planted to provide shade for pedestrians and function as a traffic calming alternative.
- Stamped textured material consisting of a brick pattern is recommended for new and replaced crosswalks at this intersection. This will provide a higher level of safety and visual awareness for pedestrians and drivers travelling through the intersection.
- Additionally, a westbound and northbound left turn signal arrow should be installed to improve the intersection's operations and safety.
- The removal of the refuge island should be a long term strategy. More immediate attention should be focused towards short term enhancements (i.e., textured crosswalks, landscaping).

Existing



Proposed

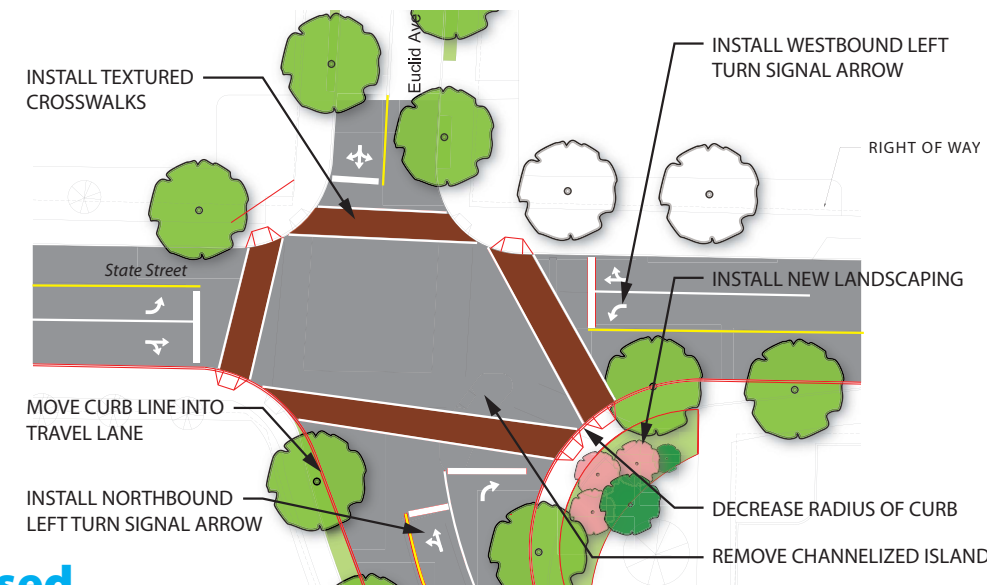


Figure 59: Stambaugh / Euclid Avenues Intersection Improvements



Existing view facing north



Existing view facing west

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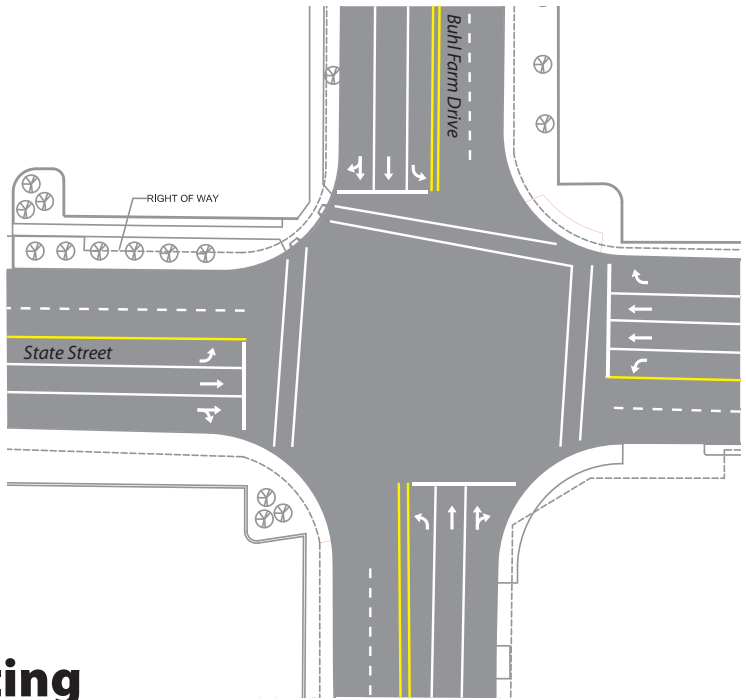
Buhl Farm Drive

Buhl Farm Drive is a key intersection in which high volumes of vehicular traffic travels north/south and east/west. Long crossing distances create potential safety concerns for pedestrians. Curb ramps and sidewalks are only located on the northwestern corner. Additionally, pedestrian crosswalks are faded and provide little indication to drivers of the presence of pedestrians.

Recommendation

- Currently, there are two receiving lanes on the northbound and southbound approaches of Buhl Farm Drive. Removing the outside receiving lane on both approaches and moving the curbs towards the centerline would allow for additional green space and the installation of sidewalks. This will also decrease the crossing distance for pedestrians crossing Buhl Farm Drive.
- The outside shared through and right turn lane on the northbound and southbound approaches of Buhl Farm Drive should be restriped as right turn only lanes to facilitate the removal of the lanes previously described.
- The eastbound and westbound approaches of East State Street will remain unchanged.
- Improvements to the pedestrian environment include upgrading the existing curb ramps to meet ADA compliancy, while introducing sidewalks and ADA compliant pedestrian crossings elsewhere throughout the intersection.
- Roadside trees should be planted to help calm traffic and improve the look and feel of the intersection.

Existing



Proposed

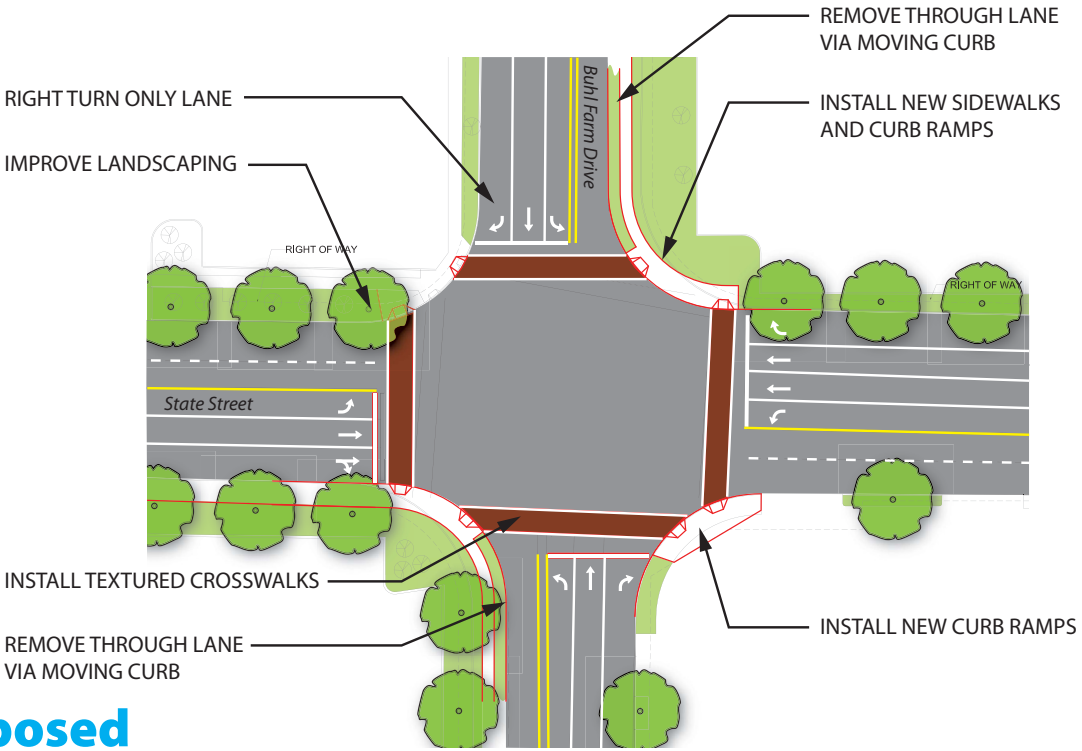


Figure 60: Buhl Farm Drive Intersection Improvements



Existing view facing west



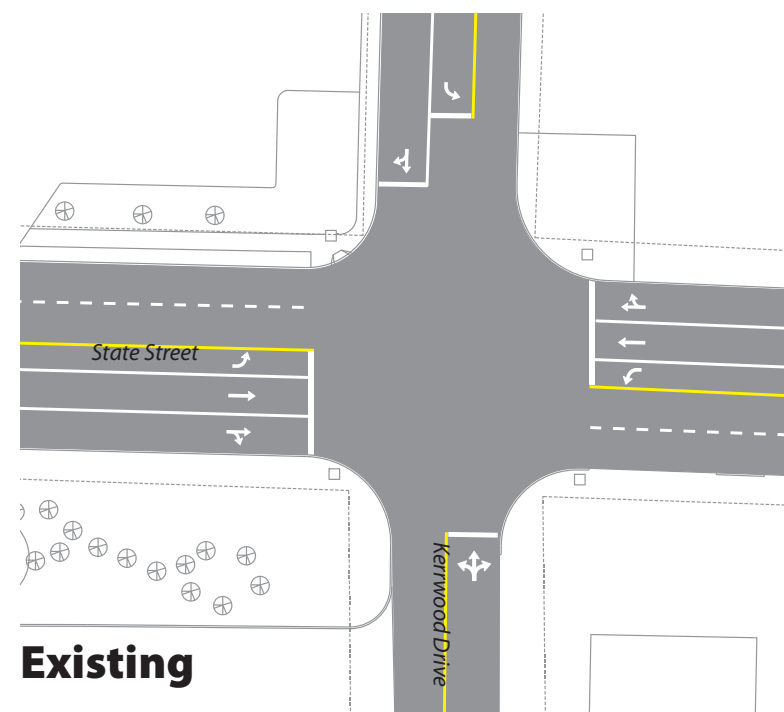
Existing view facing west

Kerrwood Drive

Kerrwood Drive is another auto-oriented intersection. Only the northwest corner has sidewalks. Pedestrians are permitted to cross, however, there are no pedestrian signals installed at any corner. The northeastern corner of the intersection has experienced damage from trucks with a long wheel base driving over the curb as the vehicle turns right onto Kerrwood Drive. Currently, the alignment of the northbound and southbound approaches contribute to safety concerns. Through public input and comments received from public officials, this has been noted as a priority intersection for improvements.

Recommendation

- An alternative to the current design is to install sidewalks and pedestrian countdown signals on all approaches.
- Install a left turn lane for the northbound approach. While the turn lane is not needed for capacity reasons, it reduces the offset between the northbound and southbound approaches and improves safety.
- The southbound receiving lane should be widened through removing and relocating the existing curb.
- Increasing the curb radius on the northeastern corner of the intersection will allow for vehicles with a longer wheel base to safely maneuver through the intersection while turning right onto Kerrwood Drive from State Street. The larger curb radius and the installation of curb ramps and sidewalks will also provide for a safer landing area for pedestrians waiting to cross the intersection.
- The northwest corner will have room for a planted buffer zone between the roadway and sidewalk for new street trees. Additionally, roadside trees along the southwestern corner should also be considered.
- New mast arm traffic signal controls should be installed at this intersection to replace the existing span wire design.
- Decorative crosswalks should be considered as a higher visibility option for pedestrian crossings on all approaches.
- All pedestrian crossings should be installed to ADA compliancy.



Existing view facing north

IV ALTERNATIVES & RECOMMENDATIONS

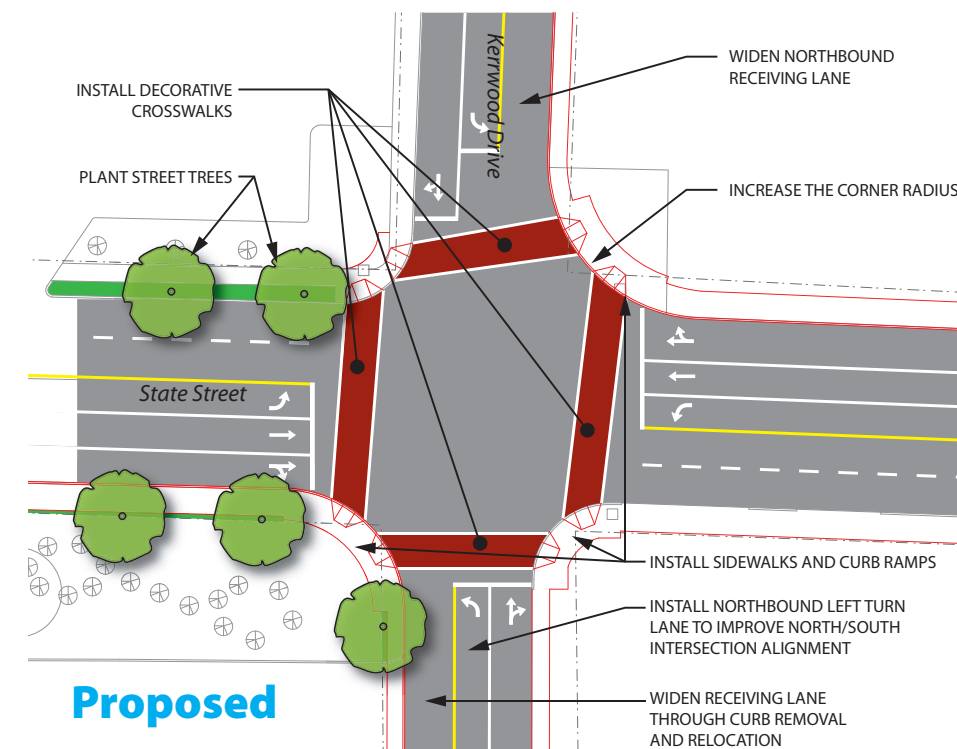
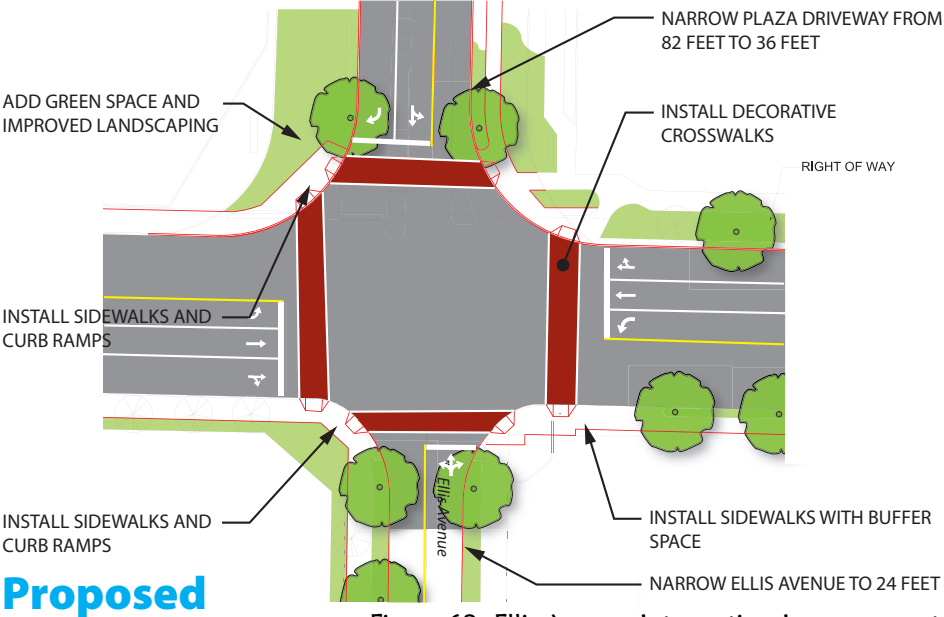
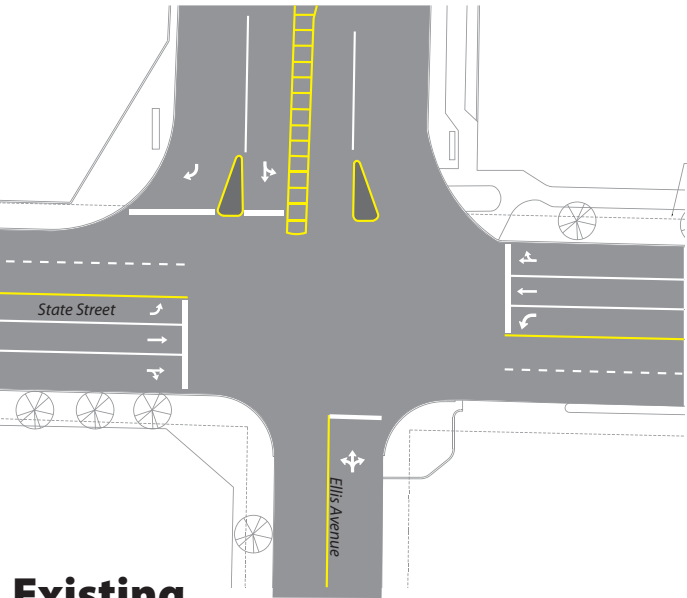


Figure 61: Kerrwood Drive Intersection Improvements



Existing view facing south



Proposed street level simulation facing northwest

Figure 62: Ellis Avenue Intersection Improvements

Ellis Avenue

The current configuration does not allow for pedestrians to travel at any point throughout the intersection. There are “No Pedestrian” signs on the northwestern and northeastern corners of the intersection. The entrance to the shopping center is confusing causing drivers to enter the wrong ingress points without clear signage. The northbound approach of Ellis Avenue is wide and creates an unfriendly pedestrian crossing environment.

Recommendation

- The southbound approach, shopping plaza driveway, to the intersection can be narrowed dramatically to improve both operating conditions for vehicles as well as aesthetics and pedestrian conditions. Reducing the width from an estimated 85’ to 36’ will shorten crossing distances for pedestrians and could reduce confusion for drivers.
- Sidewalks should be added to all approaches, as well as ADA compliant curb ramps and high visibility crosswalks. Additionally, sidewalks should be installed to provide a linkage between Kerrwood Drive and Ellis Avenue. The installation of sidewalks

along this stretch of roadway would improve the safety of pedestrians.

- Decorative crosswalks should be considered as a higher visibility option for pedestrian crossings on all approaches.
- The reduced pavement width of the southbound approach will provide space for increased green space and the addition of street trees.
- Additionally, Ellis Avenue can be reduced in size to a pavement width of 24’ from its current width of 35’. This will shorten crossing distances and align the intersection to the southbound shopping plaza approach.
- Mast arm traffic signal controls should be installed at all four corners of the intersection to replace the existing span wire design.
- The installation of roadside trees will also act as a traffic calming measure and can create a more comfortable pedestrian environment.
- Ultimately, the recommendations turn a “No Pedestrian” zone into an intersection that all users are able to interact with safely.



Unified Transportation-Land Use Concept

Hermitage Road

Another intersection that has been designed with the motorist in mind is Hermitage Road. Wide travel lanes and raised medians on the northbound, southbound, and westbound approaches increase the distance a pedestrian must travel to cross the road. Crosswalks and pedestrian signals are present, but not inviting.

Recommendation

- The stark concrete median in the southbound approach can be transformed into a landscaped median.
- The southbound right turn only lane should be restriped to a shared through and right turn lane. This lane is not needed from a capacity standpoint and is a safety concern for crossing pedestrians.
- All northbound and southbound travel lanes can then be restriped to incorporate a five (5) foot wide bike lane.
- The narrow median strip on the northbound approach should be removed. This strip is a maintenance issue and serves no real purpose in this case.
- In addition, one of the northbound left turn lanes should be removed. Operational analyses indicate that this lane is not needed to provide capacity and the intersection will operate at appropriate levels of service and with greater safety.
- Sidewalks should be installed as the right of way dictates.
- The eastbound approach could see the transformation of the current median into a landscaped median with a pedestrian refuge. One left turn only lane should be removed. Again, dual left turn lanes are not necessary to accommodate the current or future traffic volume at this intersection. Dual left turns make for more complex signal timings and introduce additional delay at the intersection that is unnecessary in this case.
- On the westbound approach, the outside travel lane should be restriped to a right turn only lane. The median should taper so as to gently allow eastbound traffic to safely merge into the eastbound receiving lane.
- Overall, the intersection should use a high visibility crosswalk design, similar to the current design, and maintain ADA compliancy on all pedestrian approaches and crossings.

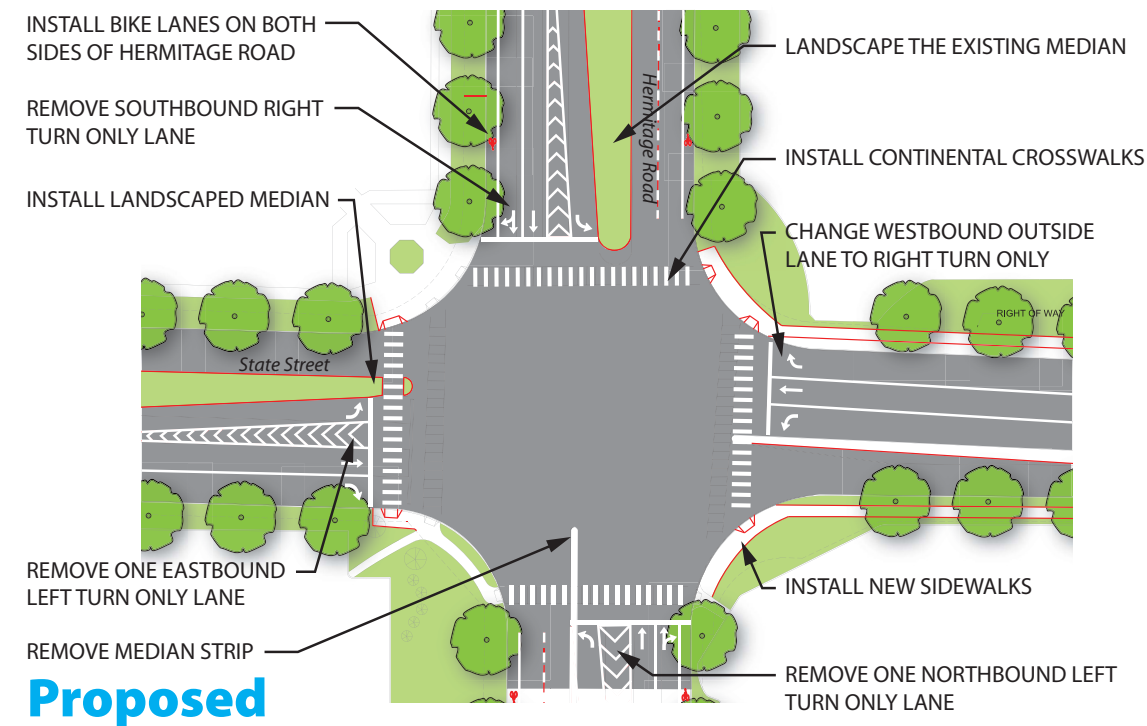
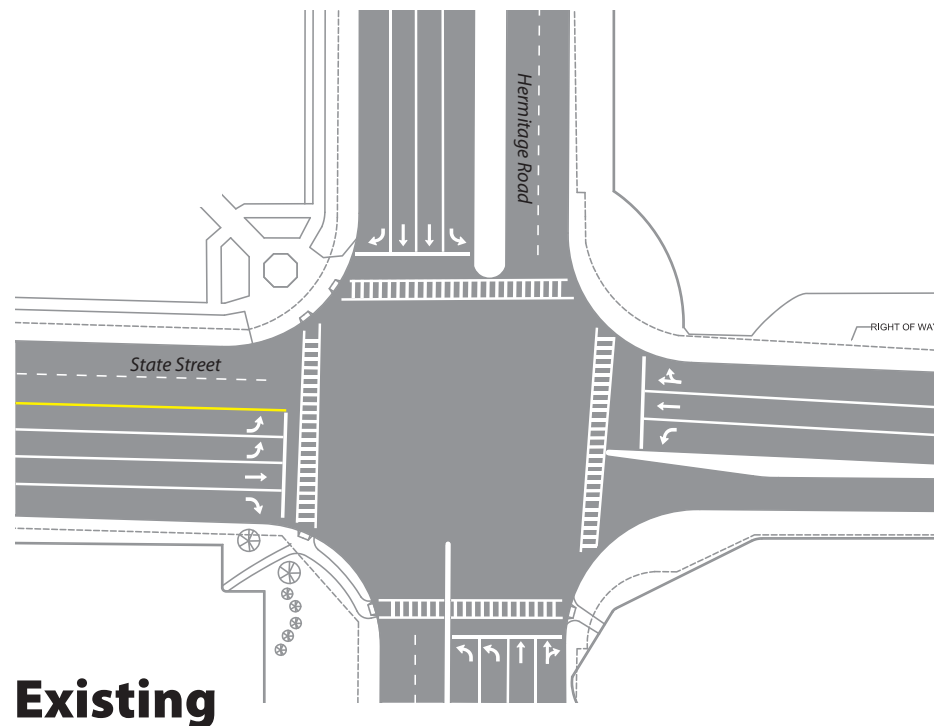


Figure 63: Hermitage Road Intersection Improvements



Existing view facing south



Existing view facing north

ALTERNATIVES & RECOMMENDATIONS IV

A TALE OF TWO CITIES



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Improved Safety Transition / Road Diet (Buhl Farm Drive to Buhl Boulevard)

Improving safety for vehicles, pedestrians, and bicyclists within the right-of-way (ROW) can be a challenge when it comes to ensuring vehicular capacity is not negatively impacted. The segment of roadway from Buhl Boulevard to Buhl Farm Drive consists of 4 travel lanes (2 lanes in each direction) plus a narrow center turn lane with a posted speed limit of 35 miles per hour (MPH). State Street through this area is a heavily traveled corridor with vehicular traffic volumes and speeds that are not conducive to bicycle or pedestrian traffic. In addition, there are a significant number of commercial driveways on both sides of State Street in this segment. The combination of these factors results in the highest accident rate in the corridor as indicated in Section III of this report.

Through comments and discussions with local officials and residents, there are concerns about the safety of motorists and pedestrians/bicyclists when it comes to travelling this stretch of roadway. An alternative to the existing 5-lane roadway is to reduce the number of travel lanes, effectively turning the current roadway into a 3-lane roadway with a center turn lane and shoulder space. This can be accomplished on existing highways where the traffic volumes can be accommodated using three lanes instead of five.

Currently, the five lane section of State Street ends somewhat abruptly just east of Buhl Boulevard. The recommended improvements will move the transition are between the three and five lane sections to a better designed location just west of Buhl Farm Drive. The transition will occur over a greater distance creating a safer merge for motorists in the westbound direction transitioning from two through lanes to one through lane.

Reducing the number of travel lanes will result in slower speeds, safer ingress and egress for businesses and side streets, less exposure to vehicular traffic for pedestrians wishing to cross State Street, and the ability to provide a paved shoulder area that could be used by bicyclists. The increased width of the center turn lane would provide more space for vehicles both entering into the stream of through traffic on State Street without risk of the vehicle overhanging into travel lanes, as well as exiting the traffic stream while waiting to turn left from State Street. Additionally, the shoulder space would provide a portion of the roadway to bicyclists separate from vehicular traffic.

Existing



Improved Transition Alternative

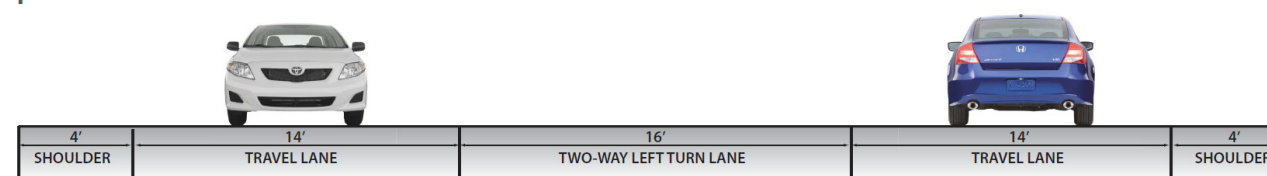
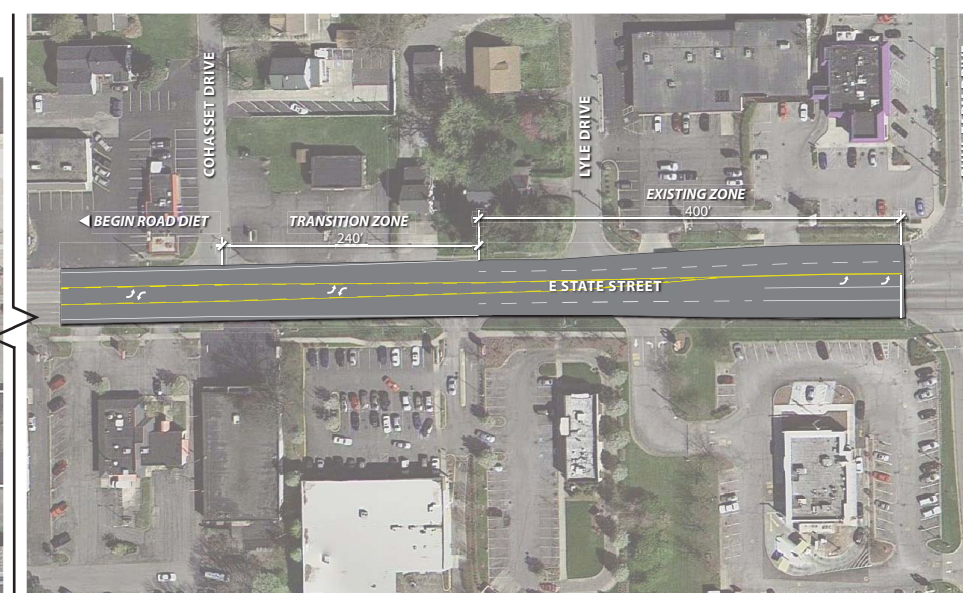


Figure 64: Improved Safety Transition / Road Diet Cross-Section



Existing view facing west



BUHL BOULEVARD

Improved Safety Transition / Road Diet Plan

BUHL FARM DRIVE

ALTERNATIVES & RECOMMENDATIONS IV

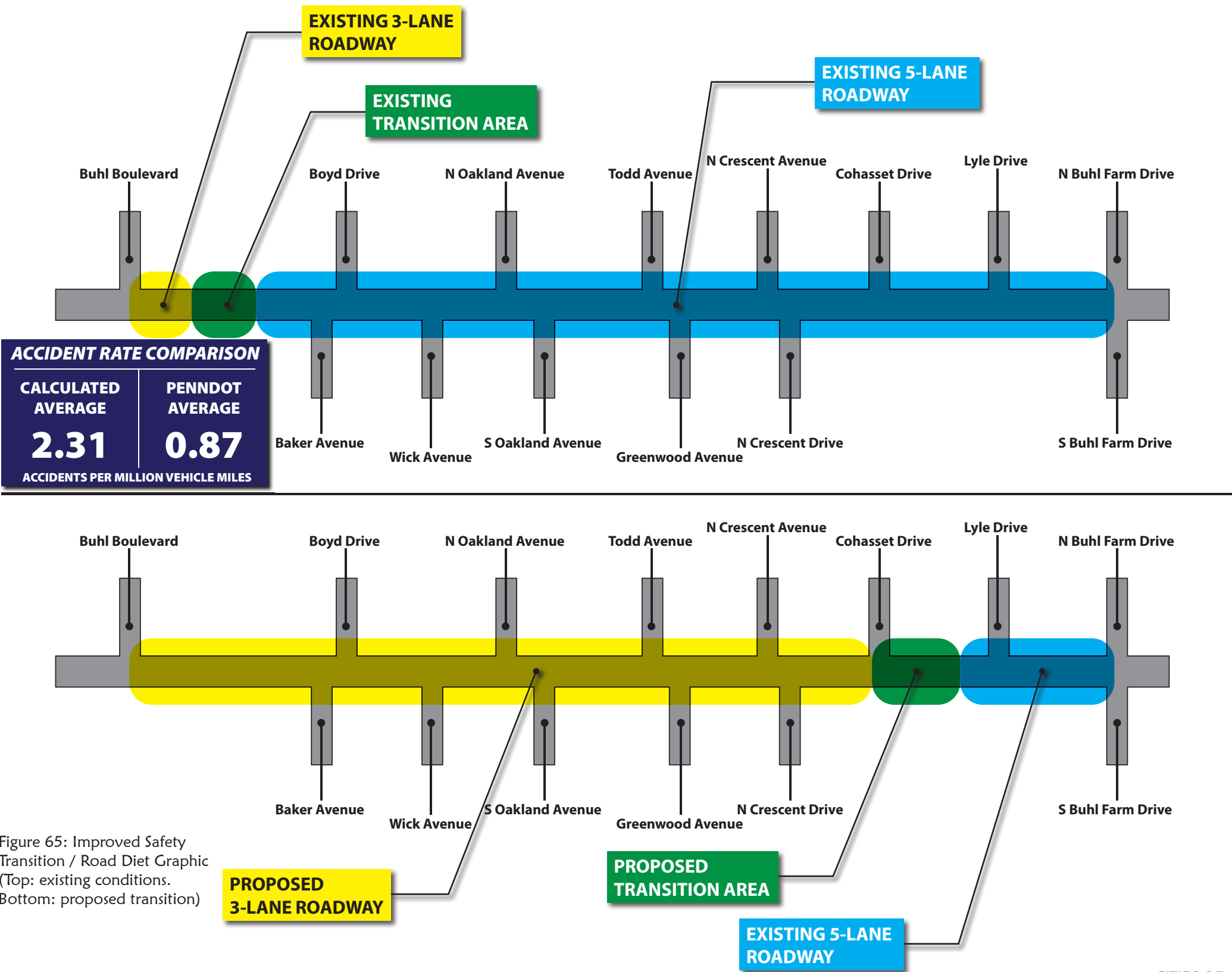


Figure 65: Improved Safety Transition / Road Diet Graphic (Top: existing conditions. Bottom: proposed transition)



Existing view facing west



Existing view facing east

Note: PennDOT categorizes accident rates as a calculation and comparison to statewide averages for similar highway facilities.

Economic Development

Downtown Sharon Plan Recommendations

This collection of recommendations for Downtown Sharon was developed by the Steering Committee to help improve and revitalize the downtown area. The recommendations reflect the issues, opportunities and assets identified through discussions with attendees at the community workshops and at meetings with local stakeholders. This section is not intended to be an exhaustive list but rather a base-set of recommendations to set the stage and begin to move the revitalization process forward. As things progress this action plan should be updated and expanded to reflect the changes in the community and the existing and future challenges it is facing.

The Conceptual Plan to the right highlights key recommendations that are geographically important. Some are long-term improvements or projects and others could happen relatively quickly if leadership and funding becomes available. In some cases, a more detailed discussion of the topics are located later in this section.

- 1. Potential Mixed-use Development (Near Term)** - The proposed multi-story and mixed-use building (under consideration) near the corner of Penn Avenue and Shenango Avenue would bring activity to the street, the waterfront and help to better define the street edge on both Shenango Avenue and Penn Avenue. The City should continue to help shepherd the project.
- 2. Potential Mixed-use Development (Long Term)** - The City should encourage infill and multi-story mixed-use development throughout its downtown. Areas for consideration are along S. Water Street and at the corner of State Street and Irvine Avenue. Development in these areas would improve the quality of the street. Shared parking would likely be required in both locations.
- 3. Streetscape Improvements** - The State Street streetscape project is anticipated to begin in the Fall of 2012. This project is critically important for the downtown. For additional information see the streetscape section below.
- 4. Festival / Event Area** - The downtown area between Silver Street and Connelly Boulevard and S. Water Avenue and Chestnut Avenue sets up nicely for a festival area along the waterfront. Streets could be temporarily closed in this area with limited impact on circulation and mobility.
- 5. Future Mixed-use Area** - This area along the east side of South Irvine Avenue between State Street and W. Connelly Boulevard already includes a mix of uses. However, it is not zoned as such. Con-

sideration should be given to rezoning the area to allow and encourage mixed-use, which is consistent with the City's Comprehensive Plan.

- 6. Critical Pedestrian Intersections** - These six areas identified on the Conceptual Plan with an asterisk are important crossings. They should be made more visible with a special treatment, such as decorative asphalt or pavers.
- 7. Make Pitt Street Two-way** - After careful evaluation by traffic engineers, it has been determined that the existing one-way configuration is unnecessary. Making the street two-way will improve circulation and make the area less confusing.
- 8. Major Pedestrian Route to Penn State** - Shenango Avenue is the primary link between State Street and the campus. The City and Penn State should continue to highlight this street with improvements including wayfinding signage.
- 9. Pedestrian Connector from Parking Garage** - Vine Street is the most direct route from the public parking garage, located on Pitt Street, to State Street. Wayfinding, streetscape enhancements, and facade improvements should be targeted for this street.
- 10. Facade / Streetwall Improvements Priority** - Buildings' facades are typically the primary interfacing element between the public and private realms. When they are out of character or in poor condition it negatively impacts the experience along the street. In a retail or commercial environment, like a downtown, these types of facades reflect poorly on local business and the City as a whole. There are numerous buildings and areas that either need facade improvements or lack the building streetwall to positively define the public realm. Therefore, the City should consider the priorities identified on the conceptual plan when targeting areas for improvements.

High - these buildings have the highest need for improvements either due to condition or their location.

Medium - buildings that might not be in ideal condition but should be targeted after the high level buildings.

Satisfactory - based on the high number of High and Medium priority buildings these are in satisfactory condition but should be evaluated periodically.

Supplement with Streetscape - these are areas with no or little streetwall. Buildings are missing or parking lots front the street. Street trees and other landscaping should be used to mitigate impacts until infill development occurs.

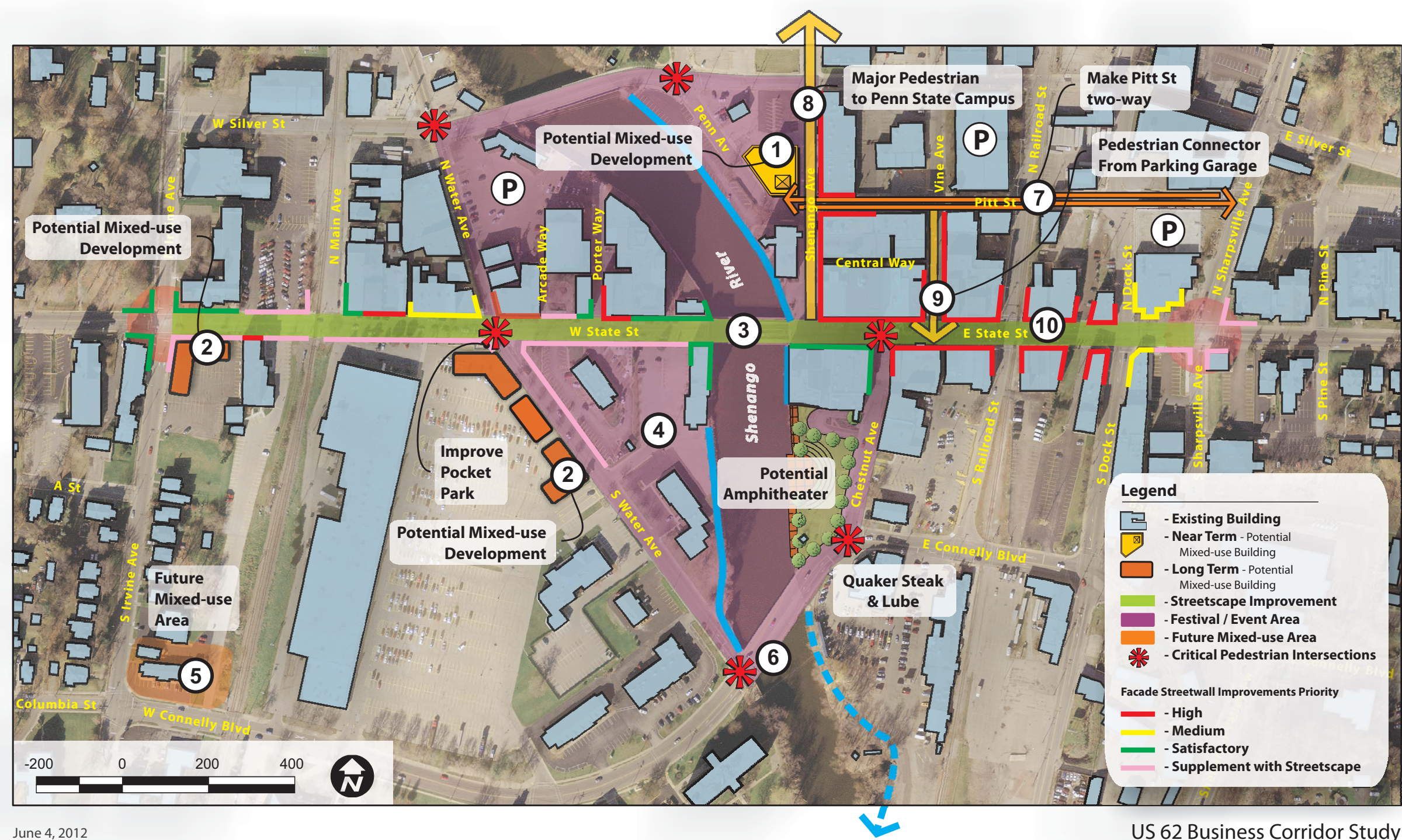
IV ALTERNATIVES & RECOMMENDATIONS



View facing south along the Shenango River



View facing east along State Street



June 4, 2012

US 62 Business Corridor Study



Downtown Sharon Conceptual Plan

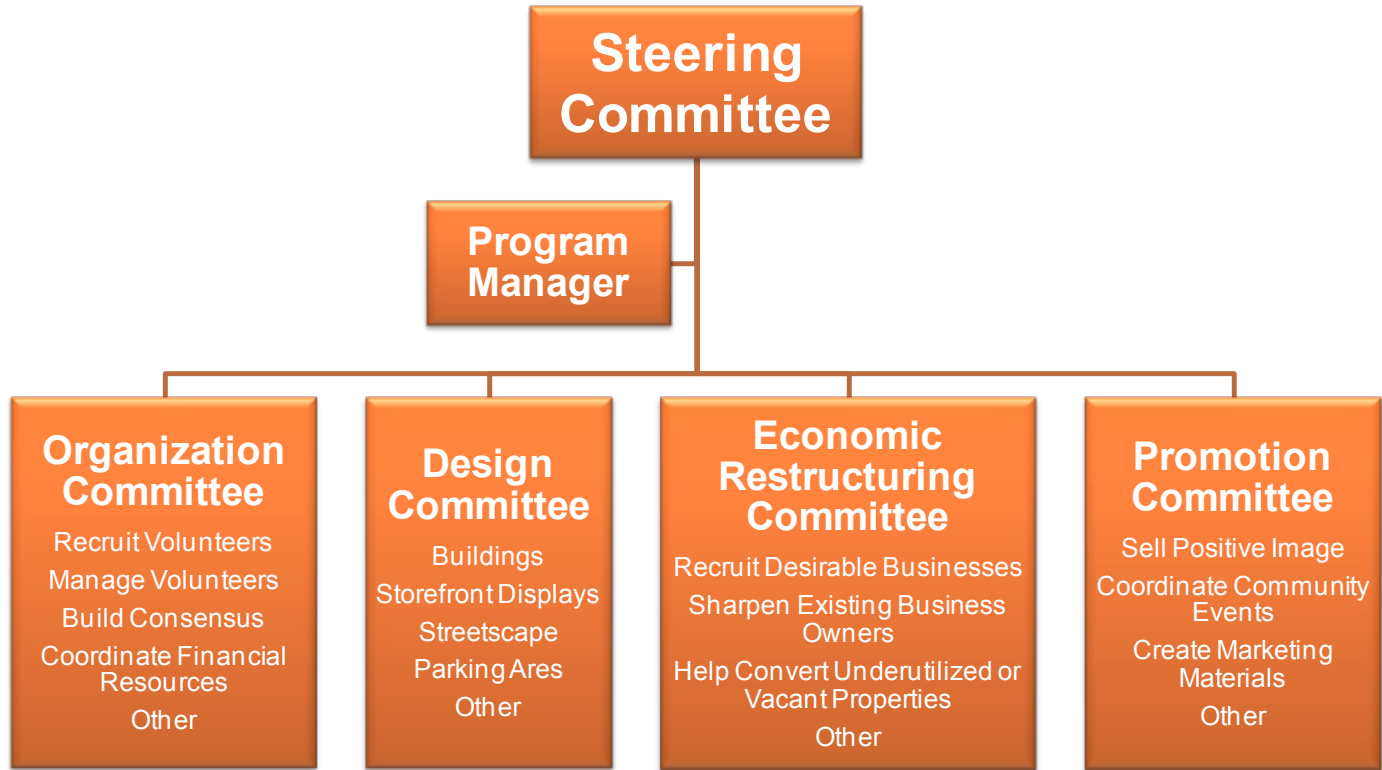
Figure 66: Downtown Sharon Plan Recommendations

Develop an organization to develop and lead the revitalization program.

Most planning and economic development experts agree that having a dedicated organization is important for successful implementation of any revitalization planning initiative. Having a coordinating organization can provide a framework for the patchwork of local businesses and community-based organizations. However, Sharon does not currently have one clearly identified organization dedicated to downtown. The Sharon Economic & Community Development Commission is the likely candidate to lead this effort. However, the focus of this organization is not necessarily on the downtown but rather the City as a whole. A more strategic approach might be to develop an organization dedicated to the sole interests of the downtown area. This program “Steering Committee” or organization could be led or include the Economic & Community Development Commission but other local downtown stakeholders and partners

should be included.

In addition to a Steering Committee, sub-committees could be formed to focus on specific areas of revitalization or to address specific issues. This strategy could be a modified version of the Main Street Four Point Approach, which was developed by the National Trust Main Street Center. The Four-Point Approach is a comprehensive revitalization strategy tailored to meet the needs of the local community. It encompasses work in four areas; Design, Economic Restructuring, Promotion, and Organization. A committee is dedicated to each of the four areas and is typically comprised of local volunteers. The chairperson of each committee is usually on the “umbrella” Steering Committee that guides the entire revitalization program. This ensures that each committee is aware of what each is doing and that everyone is working toward an overall program vision. A program manager is recommended. This position helps to manage the program and reports directly to the Steering Committee.



tee. The Program Manager position does not necessarily have to be paid but programs that have a paid Manager have proven to be more successful. Many programs start with a volunteer Manager then move to a paid position when funding becomes available.

The make-up of the organization is going to be critical to the long-term success of the revitalization program. It is important that it be comprised of local leaders and stakeholders. It could include downtown business owners, property owners, and residents as well as representation from the City of Sharon. The revitalization organization should periodically review the revitalization program in terms of its leadership, committee chairs, volunteers, funding, etc. This can be done by holding annual planning sessions. In addition, an annual work program will help to set goals and track accomplishments.

Develop a facade improvement program for downtown.

The City of Sharon is fortunate to have most of its downtown streetwall of buildings intact along State Street. With the exception of the south side between the Shenango River and Irvine Avenue, the buildings front the street and include a mix of entrances, storefronts, and other semi-public spaces. However, over the years many of the building facades have been poorly maintained and, in some instances, neglected. Several buildings have had improvements made that are inconsistent with the architectural character and/or include features such as awnings or windows that are dated and need to be removed completely or replaced. The City should develop a facade improvement program to help initiate investment and ensure that improvements are appropriate for a downtown “main street.” Linking a financial incentive to urban design standards and guidelines will help local buy-in and support for quality design.

Streets to Target



Things to consider include:

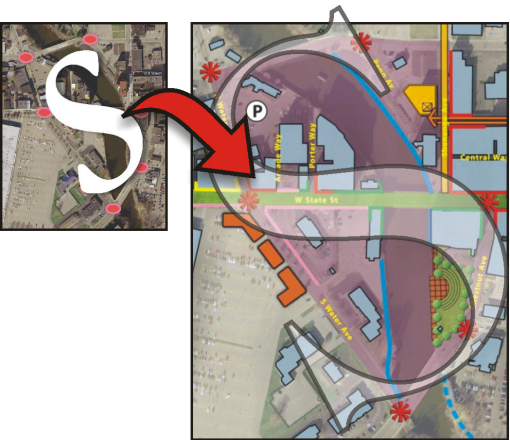
- Target an area rather than “sprinkle” dollars
- Northeast quadrant is a good area to target because of the recent public investments that have already been made or are planned and not yet implemented. The improvements made to the Shenango Avenue streetscape, public parking lots and the parking garage provide a good foundation for revitalization. Localized incentives, such as a facade improvement program, could help initiate private sector investment in the area.
- Develop specific urban design standards/guidelines for awnings, signs, window openings, materials, or anything else the program will fund. The City must hold applicants to these standards as a condition of funding. A financial contribution or “match” by the applicant is also a good idea. It shows good faith and commitment.

Encourage mixed-use development in the downtown.

Mixed-use development should be encouraged, if not required, in the Downtown. We no longer live in a time where separation of all land uses are required or even desired. Urban centers, like Downtown Sharon, should be a mix of land uses including office, retail, commercial, and a variety of housing options. It is the mixing of uses that provides activity all throughout the week at all times of the year. Mixed-use development offers many advantages over single-use buildings or districts, especially in urban areas



where densities are typically high and land is scarce and often expensive. A vertical mixing of uses results in multi-story structures that are made possible by the larger revenue streams associated with maximizing a particular site or parcel. By comparison, the horizontal mixing of land uses combines single-use buildings within a defined area. Both types of mixed-use developments could serve to achieve



the goal of place making by bringing together complementary uses in close proximity to one another. A concerted effort to develop multi-story mixed-use buildings in the downtown business district should be initiated. One way to do this is to implement a mixed-use zoning district (see section on zoning).

Just a few benefits of mixed-use include:

- Consistent with character of urban areas
- Reduction in energy use (e.g. reduced vehicular trips)
- Reduction in infrastructure costs
- Supports multi-modal efforts, such as transit, biking, and walking
- Developers like it!

Leverage public sector dollars for private investment.

As with most municipalities, money to invest in local projects and improvements is scarce. State and Federal grant programs have been cut and/or eliminated so it is important that every dollar available for Downtown be scrutinized. The City of Sharon must be very selective in what it allocates dollars to and return on investment is critical. The City has, or is in the process of, investing significant dollars in the northeast quadrant. It should continue to focus investments in specific areas rather than spreading the dollars throughout the Downtown. This approach is more likely to leverage private sector investment in new development, building improvements, and new business.

Existing/planned public projects in northeast quadrant include:

- Streetscape improvements - Shenango, Pitt, & State
- Public garage
- Penn State Campus
- Potential mixed-use project on Shenango Avenue
- Riverfront walkway / access



Encourage activity on the street.

People that visit and patronize businesses in downtowns do so for the unique experience they offer. Suburban shopping malls and strip plazas do not often provide opportunities for outdoor seating, a walk along the River or social and cultural activities, such as concerts in a park or art walks. Cities across the Country are reinventing themselves as the activity center of their regions. The City of Sharon should do no different. It should build upon and celebrate its assets and recognize that its business district is different than that of Hermitage or other suburban districts. It should continue to have unique events and activities downtown and along the Shenango River to bring people out to the streets.



The City should encourage:

- Outdoor dining
- Sidewalk sales / events
- Scavenger hunts
- Pub crawls
- Etc.

IV ALTERNATIVES & RECOMMENDATIONS

Example waterfront activities



Position the waterfront as a recreational and economic development attraction.

At one time, many cities looked at their downtown waterfront as waste dumps and barriers. Today, they have become major attractions in Cities ranging from San Antonio to Columbus. They have become the center for outdoor recreation with trails and riverwalks and even canoeing and kayaking. They have also developed into economic development attractions for a variety of water-dependent and water-enhanced uses including housing, restaurants, and shopping districts. The Shenango River is one of the most significant and underutilized assets for Downtown Sharon. The City already recognizes the importance of the River which is evident by the riverfront walkways and the Riverfront Overlay District. However, it should take their efforts further by considering highest and best uses along the waterfront. Treating the riverfront much like a street front, it should consider design guidelines and standards as well as land uses that truly benefit from a waterfront location.

In addition the City should:

- Develop a contiguous walkway along the waterfront
- Develop an amphitheater / event space
- Encourage festivals / events
- Encourage or require water dependent & water enhanced land uses

Bring festivals and events downtown.

As discussed above, Downtown Sharon must position itself as the activity center for the region. It should continue to support existing festivals, such as the brown bag lunch concert series at Columbia Square and the Small Ships Revue. It should also look to bring addition events to the Downtown area. Water Fire, a new event on the Shenango River, is under consideration and seems like it could be a great event. Other events to consider include food festivals, art festivals, and music festivals. A “Best of PA” could be considered, which might include a celebration of

the things that make Sharon and the State of Pennsylvania a great place to live and visit. Quaker Steak and Lube, Reyers, Winners and Daffin’s could all be included. Reyers, Winners and Daffin’s all claim to have the “World’s Largest”, which could be another central theme to be celebrated.

Improve the streetscape to create attractive, pedestrian friendly, and walkable streets.

A well designed streetscape can make a significant contribution in developing a strong sense-of-place and a vibrant public realm. Unlike what many people believe, creating a vibrant streetscape is less about creating a beautiful aesthetic street and more about evoking a warm and inviting feeling on the street. Getting the right components working together is critical. An inviting streetscape sends a message to residents and visitors that the street is the primary public space. Successful downtowns have walkable and inviting streets and, for the most part, Sharon has several of those. However, in some areas, street trees are sparse, crosswalks are not well defined and the street furniture is dated and in poor condition. The upcoming streetscape project will address these issues on State Street. The City must continue to find ways to maintain and improve the streetscape for all downtown streets. It is critical to the long term success of the business district. If the street looks dated and irrelevant then visitors and residents will treat it as such.

In addition to the corridor-wide streetscape standards included later in this section the City should:

- **Strategically place/replace street trees** - Trees provide enclosure, shade, and bring life to the street. They should be strategically

placed as to limit obstruction of storefronts and signs. However, this does not mean eliminate street trees in retail and commercial areas, such as State Street.

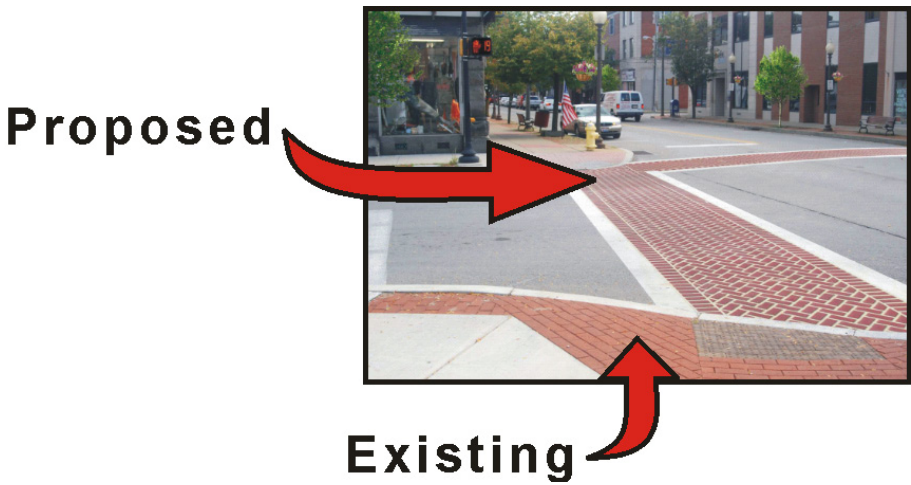
- **Enhance crosswalks at key locations** - Crosswalks need to be identifiable to both pedestrians and motorists. Rather than using decorative materials at all crosswalks it is recommended that Sharon select key locations for special treatment.



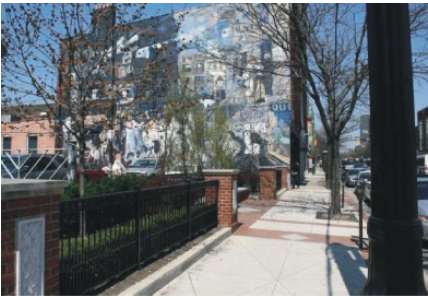
One example is to highlight the six crosswalks near the River, as indicated in the graphic to the right. This “S” formation highlights both the streets and the River, and could be symbolic of the “S” in Sharon. This “S” concept could be used in other features, such as the wayfinding system.

- **Replace / install street furnishings in key locations** - Furnishings such as benches, trash receptacles and bike racks are important features in creating a walkable and bikeable downtown. If Sharon wants to create friendly streets for people using all modes of transportation it must portray that message. Benches along a street like State Street send the message – “It’s a place for people.” Whether it be for seniors that need to rest or “people watching” benches should have a place. If people sleeping on them is a concern select a bench type with a center armrest. The armrest will prevent people from lying down. The furnishings along State Street and the rest of Downtown need to be updated. Steel furnishings will limit maintenance.





Use plantings and decorative fencing to screen parking lots - Parking lots that take-up a large percentage of the street block or ones located on corners interrupt the rhythm of the streetwall created by buildings and other vertical elements. Although this can be mitigated with appropriate street trees, the City of Sharon should consider prohibiting parking lots on corners and requiring plantings, knee walls or decorative fencing between the parking lot and street. This treatment should be designed with Crime Prevention Through Environmental Design (CPTED) principles in mind (see next for a discussion on CPTED).



Incorporate Crime Prevention Through Environmental Design (CPTED) principles in the development review process.

The relationship between the built environment and crime has been examined from a number of perspectives since the 1960s. Some say it started with Jane Jacob’s book called The Death and Life of Great American Cities. In her book, Jacob introduces the concept of eyes on the street. She makes the case that a mix of uses in urban areas create activity on the street at all times of the day; therefore increasing the chances of crimes being observed. In 1972, Oscar Newman released a book called Defensible Space: Crime Prevention Through Urban Design which led to many of the strategies for Crime Prevention Through Environmental Design (CPTED).

Crime Prevention Through Environmental Design (CPTED) is the design and effective use of the built environment to help reduce crime, reduce the fear of crime, and improve the quality-of-life. Research shows that decisions to commit criminal acts are often decided by the cues from the built environment that lead to the perceived risk of being caught. Strategies of CPTED rely on design and/or the manipulation of the built environment in a way that will discourage people from committing crimes. There are a number of CPTED strategies but the most common built environment strategies are natural surveillance, natural access control and natural territorial reinforcement. Natural surveillance and access control strategies focus on limiting opportunities for committing crime. For example, streets should be designed to maximize pedestrian and bicycle traffic, which increases activity and social interaction on the street. Low landscaping with thorny plants, when placed under windows, can deter break-ins. Windows should be positioned as to overlook sidewalks and parking lots. Territorial reinforcement promotes social control of the environment through a variety of measures including the placement of seating in common areas and displaying security system signage at access points.

Crime Prevention Through Environmental Design strategies should be an integral part of Sharon’s downtown revitalization. All design plans for development including streetscape improvements, commercial and residential development, parks, playgrounds, and parking lots should be reviewed from a CPTED perspective. The Sharon Police Department should consider having at least a few on staff trained in CPTED. Consideration should be given to including people familiar with CPTED strategies in the design review process, including Site Plan Review.

Just as research has shown that CPTED strategies can be effective in deterring crime, research has also shown that pedestrian friendly streets with landscaping can also deter crime and improve community spirit. How these strategies are interpreted and executed will be critical and the key to success will ultimately be balance. As stated in Safescape: Creating Safer, More Livable Communities Through Planning and Design by Al Zelinka and Dean Brennan, “whatever it is called, an integrative program which carefully evaluates the space under consideration and involves all stakeholders in a collaborative community building fashion is far superior and more successful than a rote application of standard, physical design features.”

Streetscape Design

Introduction

Streetscape amenities should be orchestrated to create a unique character and consistency for the Business Route 62 corridor. Amenities should be coordinated so that there is a seamless blend of materials, colors, shapes, forms and textures from one amenity to the other. Many manufacturers of streetscape components, such as lighting and street furniture, offer series that match in color in style. This provides a cohesive look.

Sharon and Hermitage should capitalize on every opportunity to improve the streetscape along the Business Route 62 corridor. This is a must in order to improve walkability. When possible, Hermitage should work with PennDOT to add street trees on every street improvement project. It should continue to partner with developers to add sidewalks and complete the sidewalk network. When there is not room for trees within the right-of-way, the City should work with developers to include trees and landscaping on the private side of sidewalks. Benches, trash receptacles and bike racks should also be included at key locations.

In the City of Sharon, Character Zones 1, 2 and 3 all had low walkability scores and improving the streetscape in these zones will go a long way in improving walkability. The City should continue to move forward with the Downtown Street Project. If benches are not included in that project they should be added later. Irvine Avenue is a gateway to the City, is adjacent to residential neighborhoods, and is a significant pedestrian linkage to downtown. New sidewalks and street trees should be a high priority in this zone.

The streetscape standards and guidelines are intended to offer direction to both Cities in improving the streetscape along the Business Route 62 corridor. These should be shared with local street planners and designers including hired consultants. If followed and expanded on as necessary and combined with the Design Guidelines and Standards the walkability and aesthetic quality of the corridor will improve.

Street Furniture

Strategically placed, benches, trash receptacles, bike racks, and planters will provide the needed amenities for both residents and visitors, and add color and life to the streetscape. Evidence shows that green and pedestrian friendly streets, which include furnishings, can entice residents to walk more, put 'eyes on street', and generate desirable foot traffic for local businesses.

Benches

Benches provide opportunities for residents and visitors to rest and to sit and talk with one another. Many people quickly dismiss including benches in the streetscape because they believe they lead to undesirable loitering. However, if they are placed in key locations and coordinated with pedestrian level lighting, they often prove to bring positive activity to the street. In addition, benches with center arm rests deter laying down, which is often a concern for municipalities and local merchants.

Standards & Guidelines:

- Benches should be fabricated of heavy gauge metal and painted with vandal-resistant powder coat paint. The metal material and finish should be corrosion resistant and able to take the heavy salt abuse during the winter. Benches should be securely mounted onto the concrete.
- Seating surfaces should be 16 to 18 inches high (maximum 24 inches) and should have a minimum depth of 16 inches for seats without backs, 14 inches for seats with backs (maximum 30 inches).
- Benches may vary in length from 4 to 8 feet, depending on design and intended users.

Design Considerations:

- Place benches in functional and accessible locations where users can reach them directly from public sidewalks or pathways in all weather conditions.
- Benches with backs and armrests are generally



more comfortable for people with physical disabilities. Benches without backs allow people to face different directions.

- When possible, locate benches near lighting and plantings. Nearby trees provide shade during the day and some shelter from rain.
- Several benches should be placed on State Street in Downtown Sharon. They should be strategically located so that they are convenient for resting, people watching, and views to the waterfront.
- Benches should be considered for areas that include high pedestrian traffic and/or where people wait for long periods of time such as the Sharon Regional Hospital area.

Suggested Manufacturers:

DuMor, Landscape Forms, Maglin Furniture Systems Ltd.

Trash & Recycle Receptacles

Receptacles reduce litter and provide for convenient disposal of waste and recyclable products. A waste receptacle is a container for disposing of trash. A recycle receptacle is a container for collecting material that can be reused or reprocessed for another use, such as soda cans, plastic water bottles, etc.

“Streets and their sidewalks, the main public places of a city, are its most vital organs ... If a city's streets look interesting, the city looks interesting; if they look dull, the city looks dull.”

Jane Jacobs



ALTERNATIVES & RECOMMENDATIONS IV

Design Standards & Guidelines:

- Receptacles should be fabricated of heavy gauge metal and painted with vandal-resistant powder coat paint. The metal material and finish should be corrosion resistant and able to take the heavy salt abuse during the winter. They should be securely mounted onto the concrete.
- Receptacles should have interior polyethylene liners to contain waste. Bins should allow users to drop material in it without requiring physical force (pulling, lifting or pushing).
- Detachable lid should be cabled securely to the unit.

Design Considerations:

- Bins should not clutter the sidewalk or block the pedestrian travel-way.
- Material and finish should be consistent with other streetscape elements, such as benches and planters.
- When possible, waste receptacles should be located near lighting.
- Receptacles should be provided where there is a demonstrated need: at transit stops and in or retail business districts and other areas of pedestrian activity.
- Waste and recyclable containers may be located together or housed in one unit with compartments for both waste and recyclables.
- Capacity of bins should be a minimum of 30 gallons.

Suggested Manufacturers:

DuMor, Landscape Forms, Maglin Furniture Systems Ltd.

Bicycle Racks

Bicycle racks provide secure parking facilities for bicycles. The term “rack” should not be interpreted as the use of long, multiple installations that do not support the bicycle frame.

Standards & Guidelines:

- Anchor bicycle racks to a paved surface and use vandal-resistant bolts or other attachments that prevent removal using common tools.
- All bicycle racks shall use single inverted-u or post and loop designs, both of which provide primary support for the bike frame. Do not use racks that secure only the wheel.
- All rack placements should provide independent access to each bicycle. Single racks are both flexible and unobtrusive.

- The exterior surface of the rack shall be non-abrasive, non-marring, and durable to minimize refinishing or repair.

Design Considerations:

- Convenience and security are the two major concerns for locations. Lighting and adjacency to high traffic areas reduces vandalism and theft.
- Shelter from weather conditions is desirable.
- Well-placed racks encourage bicycle transportation and do not block pedestrian routes. Lack of adequate facilities forces cyclists to lock bikes to signs, railings, parking meters and trees. Racks should be placed at logical locations, such as on State Street in Downtown Sharon, near the hospital and schools, at parks and plazas, and at other major destinations and activity centers.
- Locate bicycle racks near major building or center entrances. Do not obstruct entrances or pedestrian paths.

Suggested Manufacturers:

DuMor, Landscape Forms, Cycloops

Bollards

Bollards are often used prevent vehicle encroachment into pedestrian areas or buildings and/or to channel pedestrian or vehicular movement.

Design Standards & Guidelines:

- Bollards should coordinate with the material and finish of other street furnishings.
- Placement of bollards shall be a minimum of 2 feet from the curb



zone. Spacing of bollards should be 5 feet minimum (6 feet preferred) from each other.

Design Considerations:

- Bollards are useful for protecting pedestrians and buildings from motor vehicle encroachment. Other uses include providing security for sensitive buildings and sites and calling attention to traffic calming devices.
- Bollards should not create hazardous and unexpected obstacles to pedestrians, cyclists, and other non-motorized users.
- Lighted bollards provide useful light for pedestrians and motorists and emphasize travel pathways.

Suggested Manufacturers:

Reliance Foundry, Bollard Solutions, DuMor, Landscape Forms



Newspaper Dispensers

Newspaper dispensers are machines that display and dispense newspapers to the public, and often include vending equipment.

Design Standards & Guidelines:

- The design and color of newspaper dispensers should be appropriate to their context. Darker colors such as black or dark green are preferred for cabinets.
- Place newspaper dispensers outside of the pedestrian paths, with a minimum two-foot clearance from curbs.

- Place multiple dispensers into orderly arrangements or within common enclosures.
- Obtain required permission and licensing consent for new installations.

Design Considerations:

- If located correctly, newspaper dispensers can contribute to an active streetscape.
- Dispensers should be clustered and be coherent in appearance. Machines with conflicting appearance and placed randomly or in crowded locations contribute to visual clutter and may be difficult to use.
- Single dispensers with multiple cabinets are preferable to individual racks. A unified installation produces a cleaner and more cohesive streetscape.
- Newspaper dispensers may be incorporated into corrals or enclosed by short screen walls.

Public Art

Public art includes sculpture, mosaics, wall art, and other two- and three-dimensional installations designed for and placed in the public realm.



Standards & Guidelines:

- Placement should maintain good sight lines for pedestrians and motorists.
- Locations should not compromise the intended use of specific public spaces.
- A plinth, pedestal, or other means to designate art locations should be considered. This will help define the dimensional limitations of the display area.
- Identify maintenance needs, safety considerations, and replacement costs in the design process and before installations.
- Public art proposals should be reviewed and approved by a public art committee and City Council.

Design Considerations:

- Art may interpret the history, character, or people of an area.
- Art forms may include landscaping, fencing, brickwork, glasswork, gates, fences, lighting, painting (murals), sculpture, seating, lettering,

signage, computer generated, water, use of color, artifacts, etc.

- Placement should be site-sensitive and encourage public view.
- Permanent public art should use durable materials that will maintain their appearance and integrity over time.
- Art selections should recognize diverse types of art and individual preferences, and create varied environment.
- Functional features in the street environment, such as sound abatement, retaining walls, and utility boxes can provide opportunities for public art.
- When possible, public art displayed along State Street should exhibit the talent and diversity of local artists.

Street Trees

Street trees provide shade which is not only beneficial to people but it extends the life of pavement as well. Along with aesthetic benefits, trees can improve the function and feel on the street by creating enclosure which makes the street feel narrower, therefore slowing traffic and enhancing pedestrian friendliness. Street trees should be strategically placed as to limit the obstruction to storefronts and merchant signs.



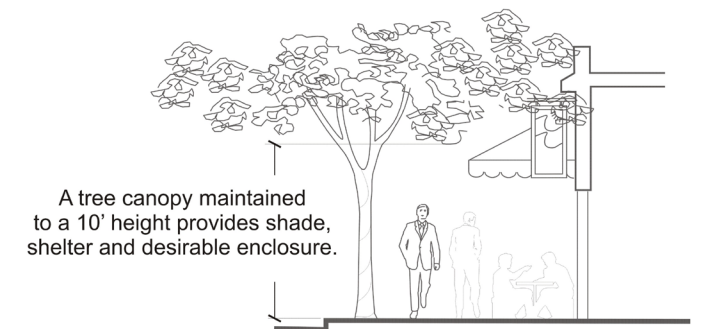
Standards & Guidelines:

- Placement of trees and other landscape materials should not violate sight lines for drivers or pedestrians.
- Street trees should be planted at no more than 40' on center when possible and alternate with street lighting.
- During the design process, the lighting plan and tree selection/placement should be considered and coordinated.
- When possible, distance between sidewalk surface and tree canopy should be at least 8 feet and not more than 12 feet.

Design Considerations:

- In Downtown Sharon and other mixed-use areas, install bike racks in strategic locations to keep cyclists from chaining bicycles to trees.
- When possible, avoid using tree grates. Tree grates should only be used in very constrained right-of-ways. They are costly and limit the growth of the tree when not removed with maturation. Planting

IV ALTERNATIVES & RECOMMENDATIONS



Tree Canopy

beds and ground covers are better treatments for the base of a tree.

- Consider tree and landscape maintenance as part of the design process.
- Consider trees with year round interest (e.g. spring flowers, fall color, texture, etc.)
- Rain gardens should be installed when possible to reduce excessive runoff and provide water to plantings. Alternatives to turf grass should be considered to manage stormwater runoff.
- Trees greater than 4 inches in diameter are not permitted by PennDOT in state highway medians. Tall grasses and shrubs are allowed. All plantings must conform to AASHTO standards.



Suggested Trees:

Small

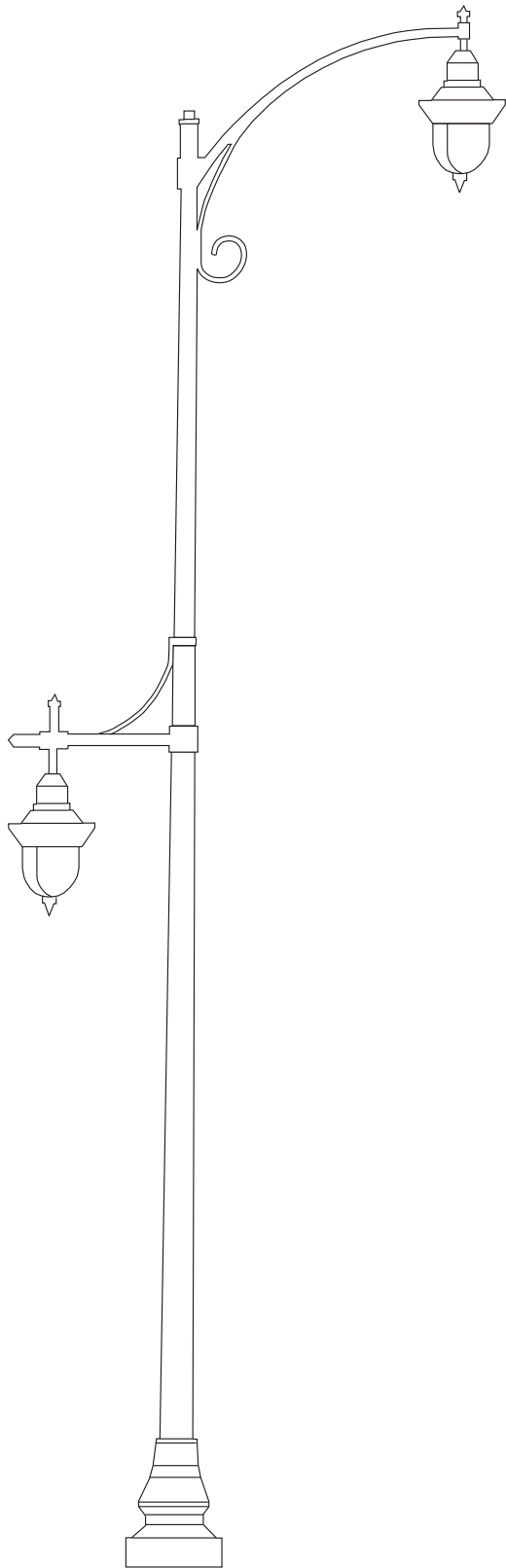
- Acer campestre 'Queen Elizabeth' - Queen Elizabeth Hedge Maple
- Acer ginnala 'Flame' - Flame Amur Maple
- Acer griseum - Paperbark Maple
- Amelanchier larvis 'Cumulus' - Cumulus Serviceberry
- Amelanchier grandiflora 'Autumn Brilliance' - Autumn Brilliance Serviceberry
- Carpinus caroliniana - American Hornbeam
- Crataegus viridis var 'Winter King' - Winter King Hawthorn
- Koeleria paniculata 'September' - September Goldenrain tree
- Malus spp - Crabapple varieties
- Syringa reticulata 'Ivory Silk' - Ivory Silk Japanese Tree Lilac

Medium Trees

- Acerx freemanii ‘Armstrong’ - Armstrong Maple
- Acerx freemanii ‘Autumn Blaze’ - Autumn Blaze Maple
- Acerx freemanii ‘Jeffersred’ - Jeffersred Maple
- Acer platanoides ‘Cleveland’ - Cleveland Maple
- Acer platanoides ‘Emerald Queen’ - Emerald Queen Maple
- Carpinus betulus - European Hornbeam
- Celtis occidentalis ‘Prairie Pride’ - Prairie Pride Hackberry
- Cercidiphyllum japonica - Kalsuratree
- Corylus columa - Turkish Filbert
- Pyrus calleryana ‘Aristocrat’ - Aristocrat Gallery Pear

Large Trees

- Ginko biloha - Maidenhair Tree
- Quercus rubra - Red Oak
- Tilla americana - American Linden
- Tilla cordata ‘Chancellor’ Chancellor - Littleleaf Linden
- Tilla cordata ‘Greenspire’ Greenspire - Littleleaf Linden



Curbs

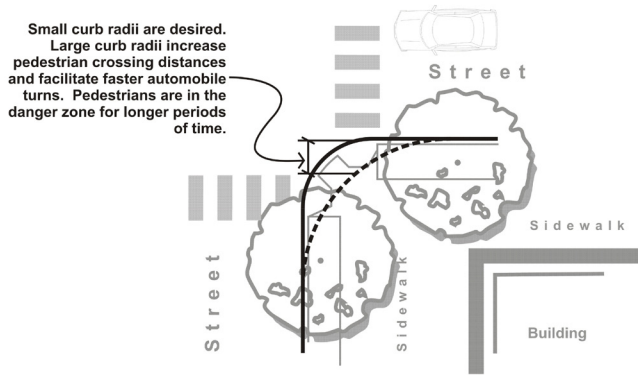
Curbs define the edge of the street and direct stormwater runoff.

Design Standards & Guidelines:

- Granite curbs should be installed within the downtown district.
- Sloped curbs are required at crossings by ADA regulations.
- Curb design must meet city and PennDOT standards.

Design Considerations:

- When determining curb radii consider vehicles as well as impacts on pedestrians crossing distances, seek balance.



Curb Radius

Lighting

Lighting extends the use of the street beyond the daylight hours and into the evening, providing for the continued use of public space. Lighting types include decorative, vehicular use, general site, pedestrian use or feature lighting.

Design Standards & Guidelines:

- Design must meet PennDOT standards.
- Clam shell base, non-structural, constructed of either cast iron or cast aluminum.
- Tapered poles are preferred.
- Light-emitting Diode (LED) is preferred, although High Pressure Sodium Light is acceptable.
- Fixtures should have shielding, limiting lighttrespass and directing light to surfaces needing illumination.

- Fixture should be dark sky friendly, with top side and house side shields.

Design Considerations:

- Sufficient strength to support signs, banners or flower baskets.
- Polycarbonate glass should not be used. The material becomes yellow, losing the desired aesthetic.
- Poles should be installed at least 2½ feet behind the curb. This provides clearance for vehicles and snow plows. Minimum clearance from the pole to any adjacent structure should be 3 feet.
- GFI outlets need to be specified for poles before installation. Outlets provide electricity for additional seasonal lighting or special events. Outlets should yield 120 volts.
- Lighting for both pedestrians and vehicles should be considered.



Lighting at Pitt Street and Shenango Avenue

Paving

Walk surfaces are an important consideration when developing streetscape standards. The materials need to be durable, safe to walk on, and contribute to the overall character of the area. The material should change based on the context of the area.

Standards & Guidelines:

- Finished surfaces of the sidewalks should be concrete, molded brick, stone, or concrete pavers. Paving patterns should emphasize the spatial elements of the walkway.
- Pavers could be incorporated into the sidewalk as bands and at the intersection as a pedestrian safe zone. Pavers could be concrete unit pavers placed over a concrete setting bed. Pavers should be mixed in a varied organization to create a pattern. The pattern of the paver field should tie into the theme of the area.
- The finish materials and pattern of the sidewalk should be maintained through driveways, alleyways, and curb ramps.
- Colored and exposed aggregate concrete is an affordable alternative to pavers. It provides texture and color to the streetscape.
- Stamped concrete and asphalt should be avoided. These materials rarely look authentic and the patterns and colors breakdown over time or in high traffic areas.



Streetside bench and molded brick pavers

Design Considerations:

- In higher pedestrian retail areas like Downtown Sharon decorative materials are more applicable than in lower density auto-oriented areas.
- Colored concrete should avoid unnatural colors, unless they are communicating a specific theme. Materials should generally not try to imitate other materials, but should be used and colored according to their own character.
- Contrasting color surfaces should be considered for functional contexts, such as:
 - to convey a warning or potentially dangerous area or
 - as part of traffic calming measures

IV ALTERNATIVES & RECOMMENDATIONS

Stormwater Applications

Both Hermitage and Sharon should consider ways to integrate best stormwater management practices (BMPs) into not only building and site development but also into streetscape design. Doing so can reduce the damaging effects of runoff on rivers and streams and often add character and bring aesthetic benefits to the street. Disconnecting or at least diverting some flow from storm sewers and directing runoff to natural systems such as landscaped areas, bio-swales and rain gardens reduces water velocity and cleans stormwater runoff. Natural stormwater systems also permit reduced pipe size for storm sewers.

- **Bio-swales** are depressed areas adjacent to impervious surfaces that are sloped on either side, contain vegetation or riprap that maximize the amount of time water spends over permeable surfaces before entering the storm sewer system. This allows water to naturally infiltrate the ground. Bio-swales also clean stormwater by removing pollutants.
- **Pervious paving** allows water to infiltrate the pavement surface, reducing rapid runoff into streams and storm sewer systems. Pervious paving surfaces include interlocking pavers, porous asphalt, porous concrete and grid pavers.
- **Rain gardens** are depressions that contain plants adapted to wet conditions, are designed to slow, capture and absorb rainwater.



Stormwater planters



Examples of naturalized stormwater planter systems



Wayfinding

Finding one's way in an unknown environment is a common task that people experience on a regular basis throughout their lives. Effective wayfinding systems result from a process based on graphic representation, environmental analysis, and identifying user need and behavior. Each community presents unique opportunities and requires a thorough analysis in the wayfinding development process. Although similar elements of wayfinding systems may prove effective, wayfinding is place-dependant. What works in city "X" may not be appropriate in city "Y." To merely duplicate and implement a system from another City could prove to be ineffective in downtown Sharon. The wayfinding system in Sharon must be based on downtown's unique attributes.

Wayfinding systems may include signs, maps, gateway features, streetscape elements, and informational kiosks. Each community presents unique opportunities and requirements which must be thoroughly analyzed as part of the planning process. The overall framework for the system in Sharon should be developed based on the unique qualities and attributes of the Downtown district. For example, the Shenango River and State Street essentially divide the downtown into quadrants or sub-districts. Therefore, quadrants might be one effective way to organize the wayfinding system. A color could be assigned to each quadrant and all signs within that quadrant would utilize that color.

With the downtown identified as the larger district, consideration can go to smaller sub-districts such as adjacent neighborhoods, and the Penn State Campus. Major streets, such as State Street and Connelly Boulevard must be considered along with local landmarks, destinations, and special features such as the river trail, the public parking garage, and Quaker Steak and Lube.

A wayfinding system in Sharon should include a hierarchy of signs and design features for pedestrians and motorists with consideration given to the quadrant and landmark levels. Sign types to consider include:

- banners
- directional signs
- destination arrival signs
- general information signs kiosks
- landmark signs
- pavement treatments
- inlaid medallions

To the right is a concept level illustration of a few signs that could be developed for Sharon. Inspiration for the concept stems from the Shenango River, represented by the "S" in Sharon, and the existing gateway sign that already exists at the corner of Sharpsville Avenue and E. State Street. These signs are just examples and are intended to be used as a starting point in developing a wayfinding system.

The first task of the wayfinding process must be the development of the wayfinding system goals. The city should coordinate a wayfinding committee and involve other local stakeholders to develop these important statements. In anticipation of more specific principles identified later through stakeholder involvement, these principles can guide the start of the wayfinding process.

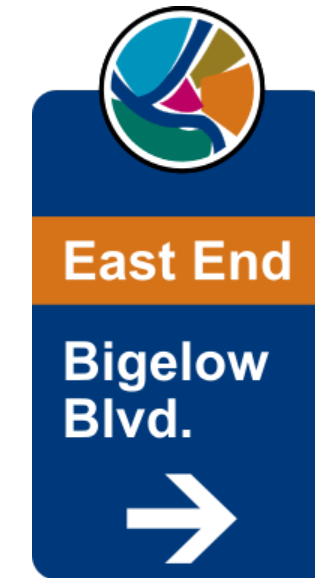
A wayfinding system for downtown Sharon should:

- be simple
- be aesthetically pleasing
- be accessible for users regardless of physical ability
- direct users to small destinations, incorporating the unique identity of Sharon
- provide pedestrians, bicyclists, and transit users with immediate information and directions
- compete with street, regulatory and storefront signs for the attention of pedestrians, bicyclists and transit users

To get started

1. Develop a wayfinding committee to lead the process.
2. Consider working with a consultant specializing in wayfinding.
3. Research urban wayfinding systems.
4. Identify the districts and sub-districts. Be specific, and group areas with common features. For example, the Penn State Shenango campus may be the namesake of the northeast downtown quadrant.
5. Identify landmarks, destinations, etc.
6. Identify fundamental landmarks. Identify the readily-identifiable objects or spaces of Sharon to include. The list should be comprehensive to start and then be limited to the most unique and necessary destinations in Sharon.

IV ALTERNATIVES & RECOMMENDATIONS



Pittsburgh's Solution

Neighboring Pittsburgh implemented the Pittsburgh Wayfinder System to represent its transportation network. The system divides the city into districts, signifying them with unique colors. These colors exist across sign elements, uniting Pittsburgh's diverse urban features.

“An ordered environment . . . gives the individual a possibility of choice and a starting point for the acquisition of further information. A clear image of the surroundings is thus a useful basis for individual growth”.

- Kevin A. Lynch
Urban Planner and Author

City of Sharon Conceptual Sign Illustrations



Wayfinding Resources

The City of Pittsburgh Department of City Planning developed a catalog of streetscape elements to consolidate streetscape specifications for its Downtown comprehensive plan. Some of these elements are fundamental to strong wayfinding systems. Sharon may consider Pittsburgh’s pylon, kiosk, and directory design for its downtown. Each wayfinding element includes dimensions and placement information, key features, and material sources. This catalog can benefit the Sharon wayfinding process due to its specificity and immediacy.

Department of City Planning. (1998). Pittsburgh Streetscape Components Catalog. In City of Pittsburgh. Retrieved August 17, 2012, from www.city.pittsburgh.pa.us/dt/StScpCat.pdf

Presentation by wayfinding consultant Bruce Herbes on pedestrian wayfinding. Herbes discusses the role of wayfinding to the user. His presentation includes many images of diverse urban wayfinding elements.

Herbes, B. Wayfinding for Pedestrians in Urban Areas: Making Places more walkable, legible and livable. Southwest Development Commission.

www.swdc.wa.gov.au/media/100057/pedwayfinding_bruce%20herbes.pdf

Consider using parts of the Pittsburgh Wayfinder system by reviewing Criddlebaugh’s detailed overview of it. The system successfully organizes and represents the bewildering geography of Pittsburgh to residents and visitors alike. This document identifies each wayfinding feature and its utility.

Criddlebaugh, B. S. (2008). Pittsburgh Wayfinder System. In Bridges & Tunnels of Allegheny County. Retrieved August 16, 2012, from pghbridges.com/articles/pgh_wayfinder/index.htm

The Ohio River Trail Council is responsible for the wayfinding system in its Pittsburgh-area greenway. The Council has published detailed documents, presentations, and construction plans for wayfinding elements.

Ohio River Trail Council. Ohio River Trail Council Wayfinding and Interpretive Signage Project. In Ohio River Trail Council: Corapolis to the state line. Retrieved August 16, 2012, from

www.ohiorivertrail.org/index.php/wayfinding



Design Guidelines & Standards

The following design and zoning recommendations are based upon the recommendations contained in the local planning documents, results of the Community Preference Survey, input from the Steering Committee, and feedback provided at the two public meetings held as part of this project. In order to ensure that new and in-fill development serves to achieve the community goals, it is recommended that the Cities consider incorporating some or all of the following recommendations into their existing regulatory framework.

It should be noted that these code recommendations should be considered a starting point for a future re-zoning discussion. The exact language and level of flexibility that is appropriate for Sharon and Hermitage will need to be determined through a process that would involve elected officials, Planning Commission and Zoning Board members, and property owners within the various zoning districts. As a result, all of the following recommendations could be phrased using the word, “should” or “shall”. Generally speaking, when a code requirement contains the word “should” it is considered a guideline to assist the Planning Commission during site plan review. Any code requirements that contain the word “shall” is considered a standard and would require a variance from the Zoning Board of Appeals if it is not met by the applicant.

This study contains two levels of zoning and design recommendations. The first are a complete set of zoning and design requirements that address the components necessary to improve the operation and appearance of the Business Route 62 corridor. These recommendations are provided on the following pages and it intended to serve as a template for both cities to consider adding to their existing zoning codes. These provisions of this can integrated into the current regulatory framework in one of three ways:

- Option 1: Amend the existing non-residential zoning districts along Business Route 62 to include some or all of the regulatory provisions;
- Option 2: Create an overlay district for Business Route 62, similar to the Route 18 South Overlay District in Hermitage; or
- Option 3: Apply the regulatory provisions to all non-residential or commercial zoning districts throughout the two Cities.

The second level of zoning recommendations were developed specifically for Sharon and Hermitage. These include:

- Landscape Standards
- Detailed zoning assessment by character area
- The provisions of three adoption ready zoning districts
- Detailed streetscape design guidelines

Fostering Better Design Through Development Review

In order to properly implement the design guidelines and standards provided in this section, the two Cities should consider modifying their development review processes. The most effective set of review procedures includes a minor site plan review, a major site plan review and a design review and training component. The following thresholds are intended to augment each City’s existing site plan review requirements.

Minor Site Plan Review - Minor Site Plan Review is generally an internal process that is ultimately approved by the authorized representative of the Planning Commission such as the Chairperson or Director of Planning. Minor Site Plan Review should be required for development or redevelopment that consists of modifications to existing buildings and facilities, such as:

1. Exterior alterations to existing buildings that do not meet the specific design standards within the C-2 district in Sharon and the CC-1 and CC-2 Districts in Hermitage.
2. Placement of accessory structures, provided that said structures do not exceed 500 square feet of gross floor area.
3. Additions to existing buildings, provided that said additions do not exceed 500 square feet of gross floor area and provided that said additions are less than 25% of the area of said existing buildings.
4. New or enlarged parking areas which contain less than 10 new spaces.
5. Minor alterations of previously approved site plans.

IV ALTERNATIVES & RECOMMENDATIONS

Major Site Plan Review - Major Site Plan Review is a public process that is ultimately approved by the Planning Commission. Major Site Plan Review should be required for development or redevelopment that consists of modifications to existing buildings and facilities within downtown Sharon and for new construction along the US Route 62 corridor, including:

1. New construction that does not qualify for Minor Site Plan Review within the C-2 district in Sharon and the CC-1 and CC-2 Districts in Hermitage.
2. Exterior alterations to existing buildings or structures and all new construction in the C-1 and C-1A Districts in Sharon.
3. Major Site Plan Review should be required for all new buildings and uses as well as expansions of uses and buildings that are not explicitly exempt from Site Plan Review or do not qualify for Minor Site Plan Review.

Design Review - Each City should incorporate an opportunity for design professionals to provide input on development proposals at the request of the Planning Commission or Planning Director. This can take the form of an individual architect, landscape architect, urban planner or other design specialist designated by the City. This person is typically not involved in every project review but those proposals that contain a significant design component. Another option is to create a full design review board that is incorporated into the development review process to provide formal recommendations to the Planning Commission as part of Major Site Plan Review applications. Regardless of which approach appeals to Sharon and Hermitage, each City will need to make an ongoing commitment to provide design training to the members of the Planning Commission and Zoning Board of Appeals.

Mixing of Land Uses

What are we trying to accomplish?

“Since the first American cities were founded in the 17th century, mixed-use development has always been part of the American urban landscape. It was not until after World War II that a movement toward complete segregation of land uses dominated the new American urban landscape. This movement, which actually began in the 1920s reached its zenith in the 1950s and 1960s. During the 1980s, the New Urbanist architectural movement, along with urban revitalization, renewed interest in mixed-use development in certain areas of the country. As the principles spawned by this development trend has slowly gained acceptance, mixed-use development is being constructed in numerous cities throughout the country.” (NAHB)

Benefits of mixing of land uses include:

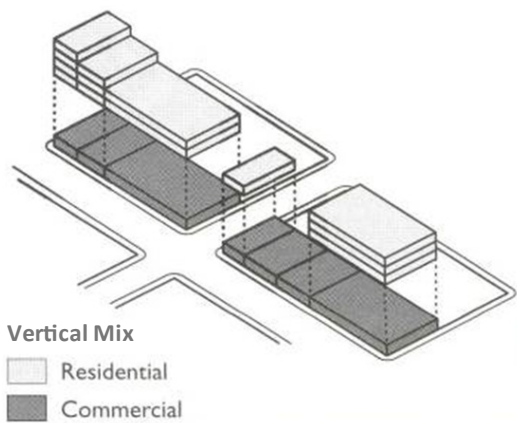
- Creates a bicycle & pedestrian friendly area.
- Conserves the environment (e.g. reduced vehicular trips, improved air quality, less runoff, etc).
- Increases the viability of transit and reduces infrastructure costs.
- Enhances the economic viability of local restaurants, stores, etc.
- Provides a variety of housing choices.
- Appeals to certain developers.



These images illustrate two examples of new mixed use projects. The image on the left is of a new four story building that has been integrated into an existing neighborhood that has dozens of mixed used buildings dating back to the early 1900s. The image on the right, is of a newly built Rite Aid. The upper floor remains unfinished until such a time that residential or office uses are established on the site.

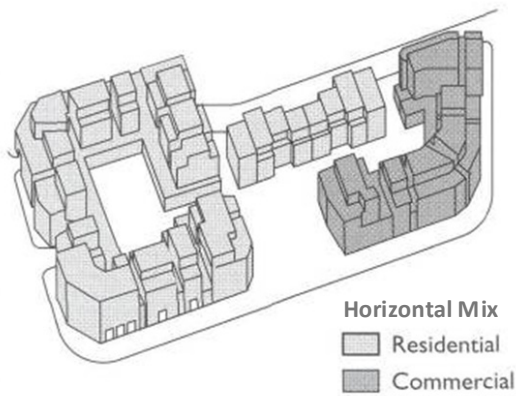
How do we accomplish it?

Mixed-use development can be defined as the use of a building, set of buildings, or a site for more than one purpose. Land uses which are commonly encouraged in a mixed use area include residential, retail, office, service, entertainment and governmental activities. There are two approaches to accommodating a mix of land uses. These include a vertical mixing of uses and a horizontal mixing of uses.



A vertical mixing of uses (shown in the graphic to the left) occurs within a single building. The most common type of vertical mix use consists of commercial uses on the ground floor with offices or apartments on the upper floors.

A horizontal mixing of uses (shown in the graphic to the right) occurs on a single site or sometimes a neighborhood.



Codifying Mixing of Uses

Both Sharon and Hermitage permit a mixing of land uses along the Business Route 62 Corridor. However, Sharon should consider permitting a greater range of residential uses along the corridor.

The types of housing that people consider desirable has grown over the past two decades. Traditionally, multi-family housing implied either apartments or condominiums. Today, other models such as attached housing that is owner occupied or rented is growing in popularity. Both cities may want to consider specifically articulating the types of residential uses that they support along Business Route 62.



This photo is an example of traditional apartment building built in the late 1990s. Residential projects such as this could range from 12 to 20 units per building. On-site parking is provided by a surface lot that surrounds the ground floor of the building.



This photo is an example of contemporary attached housing. This residential project was completed in 2008 and consists of four owner-occupied units. Each unit is situated on an individual building lot and has its own attached, two-car garage.

It is recommended that Sharon permit multi-family housing units as a primary use in the study area. Multi-family housing projects should be classified as a Permitted or a Conditional Use in the C-1, C-1A and C-2 Zoning Districts.

Building & Site Design

What are we trying to accomplish?

The purpose of the guidelines and standards for building design is to create lively, pedestrian-friendly and attractive buildings, sites, open spaces and streetscapes where residents and visitors will enjoy walking, biking, driving and shopping. Future private development along the corridor should positively contribute to the public realm. This is accomplished by varying building massing to provide visual interest, promoting compatibility with surrounding developments, emphasizing street corners, highlighting points of entry, and placing focal points along the corridor.

Objectives - Buildings should:

- Actively engage the street and include architectural and site design features including but not limited to, public space, art, clocks, dormers, cupolas, etc.
- Be designed with a clearly articulated base, mid-section, and crown.
- Include a prominent street level entrance or connection to the entrance that is visible and accessible from the public sidewalk along State Street.
- Be designed with a high level of articulation and avoid long unbroken facades planes.
- Include first floor transparency that allows views into the interior of the building creating and indoor/outdoor relationship.



These images illustrate the types of building & site design practices that are desired along Business Route 62. The incorporation of some or all of the design requirements contained in this section will serve to improve the appearance of commercial development along the corridor.

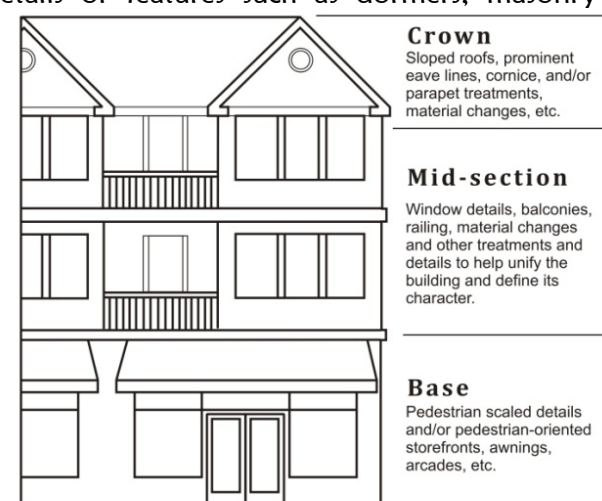
How do we accomplish it?

Building Placement and Orientation

1. To the maximum extent practicable, buildings shall be arranged to orient to the streets and to frame the corner at the intersection of two streets.
2. Street Frontage - a minimum of 50 percent of the street frontage shall be occupied by the site design elements described in item 3 below.
3. Site Design Elements
 - Building frontage;
 - Decorative architectural walls no higher than 3 ft in height;
 - Landscaped entryway signage or features; and/or
 - Site amenities including, but not limited, to public space, art, clocks, etc.

Building Composition

1. Buildings shall exhibit a clearly defined base, mid-section, and crown. This can be accomplished using a combination of architectural details, materials and colors.
2. Architectural details or features such as dormers, masonry chimneys, cupolas, clock towers, and other similar elements are encouraged.



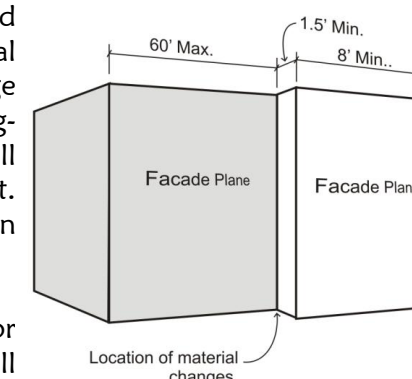
IV ALTERNATIVES & RECOMMENDATIONS



A well articulated base, mid-section, and crown can be achieved in all building types and sizes including multi-story buildings, as depicted in the topic illustration, and single-story buildings, as depicted directly above.

Facade Composition

1. All buildings shall have a prominent street level entrance visible and accessible from the public sidewalk.
2. Buildings located on corner lots shall have an entrance located on the corner that faces the intersection of two public streets to the extent practicable.
3. Varied building designs that avoid long, flat facades are required.
 - The vertical plane of the building facade shall be broken up with a high level of articulation (e.g., projecting entry or window features, recessed elements, transparent storefronts, identifiable retail spaces, and awning/entrance canopies) especially at ground level.
 - No facade shall exceed 60 ft. in horizontal length without a change in facade plane. Changes in facade planes shall be no less than 1.5 ft. in depth and 8 ft. in length.
 - Any changes in exterior building material shall occur at interior corners.
4. All facades shall be designed to be consistent in regard to architectural style, materials, and details.



Transparency

1. A minimum of 60 percent of the street-facing, ground floor facades for nonresidential uses shall be comprised of clear windows that allow views into the interior of the building.
2. Ground floor facades for residential uses shall provide a minimum transparency of 20 percent.
3. Ground floor transparency shall be measured between 2 ft. and 10 ft. above the adjacent sidewalk.
4. Renovations of the first floor of existing buildings shall not decrease the area of transparency. Where feasible, renovations shall increase the area of transparency to that required for new construction unless the original historic character of the building requires less transparency area.

Materials

1. All primary buildings shall be constructed or clad with materials that are durable, economically-maintained, and of a quality that will retain their appearance over time, including, but not limited to, painted wood; natural or synthetic stone; brick; stucco; integrally-colored, textured, or glazed concrete masonry units; high-quality pre-stressed concrete systems; Exterior Insulation Finish Systems (EIFS); or glass.
2. Prohibited materials include:
 - Smooth-faced gray concrete block, smooth-faced painted or stained concrete block, smooth-faced concrete panels;
 - Unfinished wood; and
 - Corrugated metal siding.

Mechanical Equipment

1. To the extent practicable, air conditioning units, HVAC systems, exhaust pipes or stacks, elevator housing, and other similar mechanical equipment shall be thoroughly screened from view from the public right-of-way and from adjacent properties. Screening shall be architecturally compatible with the style, materials, colors, and details of the building.

Vehicular & Pedestrian Circulation

What are we trying to accomplish?

The purpose of the guidelines and standards for building design is to provide a safe, efficient, and convenient vehicular and pedestrian access and circulation patterns within and between developments. By creating a safe, continuous network of pedestrian walkways within and between developments, pedestrians will feel more inclined to safely walk (rather than drive) between land uses. By creating a network of rear access roads and shared driveways that provide cross access between developments, motorists can patronize multiple establishments without utilizing Business Route 62. This will reduce the number of turning movements along the corridor and increase the safety for all users. It should be noted that these requirements are meant to provide a minimum set of standards. The Access Management Overlay District contained in the appendix is a more detailed and methodical approach that will accomplish the same objectives.

Objectives - Access & Circulation should:

- Protect the safety of motorists, bicyclists, and pedestrians that travel along the corridor and patronize local businesses.
- Include pedestrian walkways designed to provide access and connections to and between adjacent sites and to the public sidewalks along State Street.
- Consider cross access and a unified circulation pattern with adjacent development sites.
- Include walkways and sidewalks with shade trees and pedestrian amenities, such as outdoor seating and trash receptacles.
- Minimize the impact of drive-up facilities on pedestrian activity.



These images illustrate examples of pedestrian connections from the public sidewalk system, through parking areas, and to the front entrance of various commercial developments.

Pedestrian Access & Circulation

1. An on-site system of pedestrian walkways shall be designed to provide direct access and connections to and between the following:
 - The primary entrance or entrances to each commercial building, including pad site buildings;
 - Any sidewalks or walkways on adjacent properties that extend to the boundaries shared with non-residential development;
 - The public sidewalk system along the perimeter streets adjacent to the commercial development;
 - Where practicable and appropriate, adjacent land uses and developments, including but not limited to adjacent residential developments, retail shopping centers, office buildings, or restaurants; and
 - Where practicable and appropriate, any adjacent public park, greenway, or other public or civic use including but not limited to schools, places of worship, public recreational facilities, or government offices.
2. Sidewalks and/or plazas shall be provided with weather protection (e.g., shade trees, awnings/canopies) and appropriate pedestrian amenities (e.g., street tree grates, outdoor seating, trash cans, sidewalk displays, public art, etc.).

Vehicular Access & Circulation

1. To the extent practicable, non-residential and mixed-use sites shall be designed to provide cross access and a unified circulation pattern with adjacent sites.
2. Techniques to achieve this include, but are not limited to, shared driveways, shared access roads and cross access easements.
3. To the extent practicable, common or shared service and delivery access shall be provided between adjacent parcels and/or buildings.
4. Access easements may be required so that pad sites or adjacent parcels have adequate access if ownership patterns change.
5. Drive-up facilities shall be located in either the side yard or rear yard.

Off-Street Parking Areas

What are we trying to accomplish?

While recognizing the important role of cars in everyday life and the need to provide adequate and convenient space for them, these guidelines and standards move away from the typical suburban pattern of predominant and highly-visible parking areas within commercial developments. Placing large amounts of parking between the front door of buildings and the adjacent street contributes to an undesirable experience for users, and creates a detached relationship between the primary building and the public street. These standards are also intended to reduce the scale of parking areas, siting some or all of the parking lot out of view from the public right-of-way, providing clear pedestrian circulation paths and amenity areas within parking areas, and using increased landscaping within parking lots to screen spaces and reduce the overall visual impact of large parking areas.

Objectives - Parking areas should:

- Front building façades that are at least partially transparent and inviting to visitors.
- Not dominate the street frontage.
- Be broken down into smaller blocks or units.
- Include pedestrian routes from the parking stalls to the main building entrance and the public sidewalk along State Street.
- Be accessible by adjacent development to encourage shared parking where appropriate.

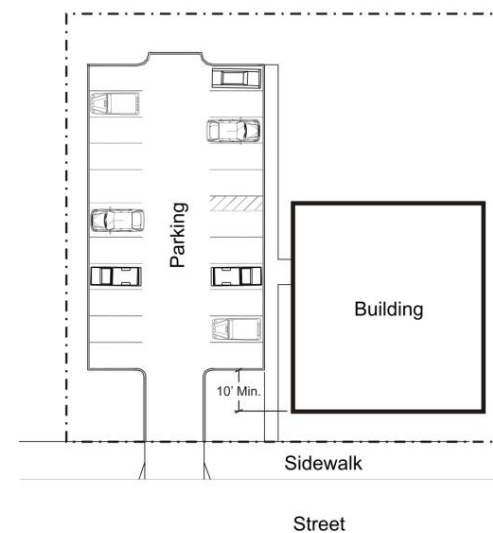


These images illustrate various parking layouts that serve the needs of motorists and pedestrians. All of these examples include designated pedestrian connections from the parking lot to the store. The landscaping serves to screen the parking and reduce the environmental impacts of the paved areas.

How do we accomplish it?

Location of Parking

1. Parking should be limited or prohibited in the front yard.
2. Off-street parking should be located in the rear yard, side yard or underground. Side yard parking shall be located a minimum of 10 ft. behind the front facade.



Parking located in the side yard shall be set back a minimum of 10 ft. behind the front facade.

3. The building façade facing the parking area shall be 60 percent transparent between the height of 3 ft. and 8 ft. above the parking area grade for no less than 30 percent of the horizontal length of the façade.
4. Parking, or access to parking, shall not exceed 40 percent of lot frontage.
5. All parking areas shall be set back from adjoining single family districts:
 - A minimum of 15 ft. and include a landscape screen; or
 - A minimum of 0 ft. and include a wall.

IV ALTERNATIVES & RECOMMENDATIONS

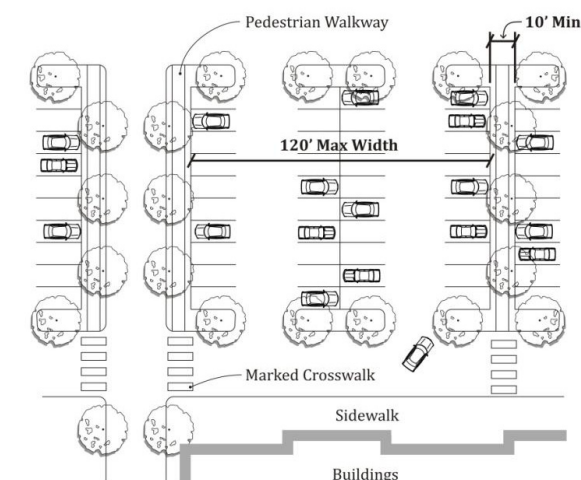
Number of Spaces

1. The parking requirement for retail businesses can be reduced to as low as 3 spaces per 1,000 sq. ft. of gross floor area.
2. All other uses shall be subject to the existing parking requirements.
3. The maximum number of off-street parking spaces for any building or use shall not exceed 150 percent of the minimum parking requirement.

Parking Blocks

In order to reduce the scale of parking areas, the total amount of parking provided shall be broken up into parking blocks containing not more than 40 spaces.

1. Each parking block shall be separated from other parking blocks by buildings, access drives with adjacent landscaped areas at least 10 ft. wide, a landscaped median or berm at least 10 ft. wide, or by a pedestrian walkway or sidewalk within a landscaped median at least 10 ft. wide.
2. Each parking block or pod shall have consistent design angles for all parking within the block.
3. Parking blocks should be oriented to buildings to allow pedestrian movement down and not across rows (typically with parking drive aisles perpendicular to customer entrances).



Parking blocks shall be compact, well landscaped with designated pedestrian facilities.

Pedestrian Walkways

All parking blocks which contain more than 25 stalls, including access lanes and driveways, must include clearly identified pedestrian routes from the parking stalls to the main building entrance, public sidewalk along the street and/ or central location. At a minimum, walkways shall be provided between every parking block and meet the following standards:

- 1. Shall be designed and built in accordance to the City’s specifications for construction of utilities and roadways;
- 2. Shall be distinguishable from vehicular ways by pavement material, texture, or raised in elevation;
- 3. Shall have adequate lighting for security and safety. Lights shall be non-glare and mounted no more than 20 feet above the ground;
- 4. Shall comply with the American with Disabilities Act (ADA).

Shared Parking

Shared parking is encouraged along Business Route 62 to promote efficient use of land and resources by allowing users to share off-street parking facilities for uses located within close proximity to one another with different peak parking demands or different operating hours.

- 1. General: The Planning Commission may approve shared use of parking facilities located on the same property or on separate properties if, in the opinion of the Planning Commission:
 - A convenient pedestrian connection between the properties exists; and
 - The properties are within 1,000 ft. of each other on the same side of the street or within 500 ft. of each other on opposite sides of the street; and
 - The availability of parking for all affected properties is indicated by approved directional signs.

2. Number of Spaces Required.

- Where the uses to be served by shared parking do not overlap their hours of operation, the property owner or owners shall provide parking stalls equal to the greater of the applicable individual parking requirements.
- Where the uses to be served by shared parking have overlapping hours of operations, the property owner or owners shall provide parking stalls equal to the total of the individual parking requirements. If the following criteria are met, that total may be reduced by 10 percent:
 - The parking areas share a property line; and
 - A vehicular connection between the lots exists; and
 - A convenient, visible pedestrian connection between the lots exists; and
 - The availability of parking for all affected properties is indicated by approved directional signs.

Bicycle Parking

What are we trying to accomplish?

In order to encourage the use of bicycles as an alternative to motor vehicle transportation to access employment, commercial, and residential destinations along Business Route 62, convenient places to park and securely store bicycles is required.

Objectives - Bicycle parking should be:

- Considered as part of all new development.
- Located and clearly designated in a safe and convenient location.
- Adequately separated from motor vehicle parking.
- Visible from the building’s main entrance.
- Designed so cyclists can securely lock their bicycles.
- Protected from the weather when practical.



Applicability

- 1. Bicycle parking requirements shall apply to new development, building expansions or occupancy changes requiring a zoning permit where motor vehicle parking is required.

Number of Spaces

- 1. Bicycle parking shall be provided at 10 percent of the motorized vehicle parking requirements but not less than 2 bicycle spaces and not more than 20 bicycle spaces for any use.

Location & Design Requirements

- 1. Bicycle parking shall be located and clearly designated in a safe and convenient location. Accessibility to bicycle parking shall be equivalent to the motor vehicle spaces provided.
- 2. Bicycle parking facilities shall be sufficiently separated from motor vehicle parking areas to protect parked bicycles from damage by motor vehicles.
- 3. Bicycle parking signs shall be visible from the main entrance of the structure or facility.
- 4. Bicycle parking facilities shall be of sufficient dimension to accommodate a full sized bicycle, including space for access and maneuvering.
- 5. Facilities shall be designed to accommodate U-shaped locking devices and shall support bicycles in a stable position without damage to wheels, frame or other components and shall be securely anchored and of sufficient strength to resist vandalism and theft.

Multi-building Development

What are we trying to accomplish?

The State Street Corridor contains a number of properties that are large enough to be occupied by more than one building now or in the future. As these properties develop or re-develop, opportunities might exist to create multi-building developments with larger buildings located in the rear or central portion of the site and liner buildings fronting street edges and primary site entrances. Centralized shared parking, shared access points, and public space, such as small plazas and sitting areas, should also be incorporated into these developments.

Objectives - Multi-building developments should:

- Include buildings that help to frame streets, driveways, access roads, parking areas, and/or pedestrian ways.
- Be accessible and oriented to accommodate all transportation users.
- Incorporate pedestrian connections to buildings within the site and to adjacent developments.
- Create spaces for community engagement such as public seating areas, and small plazas or squares.



This image illustrate how the proper placement of a pad site or out-parcel can serve to frame an intersection while reducing the visible presence of parking lots.

How do we accomplish it?

Overall Site Layout and Building Orientation

All primary and pad site buildings shall be arranged and grouped so that their primary orientation complements adjacent, existing development and either:

1. Frames the corner of an adjacent street intersection;
2. Frames and encloses a primary or "main street" pedestrian and/or vehicle access corridor within the development site; or
3. Frames and encloses on at least three sides parking areas, public spaces, or other site amenities.

Pad Sites & Buildings

1. The number, location, and design of independent pad sites shall reinforce, rather than obscure, the identity and function of the primary commercial development.
2. To the maximum extent practicable, pad sites shall be clustered together to define street edges and entry points or to enclose and create usable places between buildings. The even dispersal of pad sites in a widely-spaced pattern within the development, even if along the street edge(s), is discouraged.
3. Wherever practicable, spaces between adjoining pad site buildings should be improved to provide small pockets (preferably heavily-landscaped) of customer parking, pedestrian connections, small-scale project amenities, or focal points.
4. Examples include but are not limited to:
 - A landscaped pedestrian walkway linking customer entrances between two or more pad site buildings;
 - A public seating or outdoor eating area;
 - An area landscaped with a variety of plant materials emphasizing four-season colors, textures, and varieties; or
 - Sculptures or fountains.

5. The primary façade of a building located on a pad site, typically the façade containing the primary customer entrance, may be oriented in a variety of ways, including, but not limited to, toward the primary access street, toward an internal "main street," framing a primary entrance to the development or center, toward the side (especially when that side faces another pad site building), or toward the interior of the center.
6. Pad site buildings shall incorporate the same materials and colors as those on the primary commercial building(s) in the development or center. Significant departures from "off-the-shelf" standardized building design may be required to meet this standard.
7. Pad site entrances are appropriate locations to express individual building character or identity. Customer entrances shall be emphasized through incorporation of a building recess, projection, canopy, or similar design element.

Freestanding Kiosks & Automated Teller Machine (ATM) Structures

1. All kiosk-type buildings and structures shall be integrated with the overall commercial or center development, and shall be subject to the same guidelines as all other buildings within the development.
2. Freestanding kiosks and drive-up ATM structures shall not be located along the primary access street frontage.
3. Access to a freestanding kiosk or drive-up ATM structure shall not be from the adjacent public streets. Access shall be from drives and streets internal to the development.
4. Freestanding kiosks and drive-up ATM structures shall comply with the building design standards applicable to pad sites set forth in the previous section (Pad & Building Requirements).

Landscape Standards

1. Intent

Landscaping shall be designed as an integral part of every development project, and not merely located in leftover portions of the site. Landscaping is intended to visually tie the entire development together, help to define and announce entryways and circulation patterns (both vehicular and pedestrian), and, where appropriate, help buffer less intensive adjacent land uses. It shall help to minimize the expansive appearance of parking lots, provide shaded areas for pedestrians, and soften hard edges of buildings and parking lots. Color and texture should be incorporated into the overall landscape plan. Careful selection of flowering trees and shrubs can provide seasonal color all year. The use of evergreen and deciduous plant material, bark color, seeds, and fruit (berries) that persist can provide additional color and texture to the landscape.

2. Entryway and Setback Landscaping

- Building setback areas along streets, access ways, or along private drives, shall be landscaped with a minimum of 1 shade tree per 40 ft. of linear frontage.
- Building setback areas shall include compact massings of ornamental plant material, such as ornamental trees, flowering shrubs, perennials, and ground covers.
- Planting shall be massed and scaled as appropriate for the entryway size and space.
- Plantings should decrease in size and increase in detail, color, and variety near entryways into developments.

3. Building Foundation Landscaping

- Building foundations shall be planted with ornamental plant material, such as ornamental trees, flowering shrubs, perennials, and ground covers.
- Plantings shall be massed and scaled as appropriate for the entryway size and space.
- Plantings should decrease in size and increase in detail, color, and variety near entryways into buildings.

4. Interior Parking Lot Landscaping

- The interior of all uncovered parking blocks containing 10 or more spaces shall be landscaped according to the provisions in this subsection.
- The primary landscaping materials used in parking lots shall be trees, which provide shade or are capable of providing shade at maturity. Shrubbery, hedges and other planting materials may be used to complement the tree landscaping, but shall not be

the sole means of landscaping. Effective use of earth berms and existing topography is also encouraged as a component of the landscaping plan.

- One shade tree shall be planted for every 5 parking spaces.
- Large and medium shade trees are recommended.
- Due to heat and drought stress and vision clearances, ornamental and evergreen trees are not recommended.
- Minimize conflicts between plantings and pedestrian circulation, emergency vehicle access, light poles, signs and site utilities.
- Landscaped berms shall be at least 10 ft. wide, a maximum of 3 ft. high, and include a maximum slope of 3:1.

5. Lawn Area (turf)

- Grass areas shall be planted in species well adapted to localized growing conditions in Mercer County. Grass areas may be sodded, plugged, sprigged, hydro-mulched, or seeded except that solid sod shall be used in swales or other areas subject to erosion. In areas where other than solid sod or grass seed is used, overseeding shall be sown for immediate effect and protection until coverage is otherwise achieved.
- Procure from new of the year seed crops, free of foreign material or weed seeds.
- Replacement or overseeding mixes shall match or compliment original installation.
- Provide continuous uniform and consistent coverage.

6. Plant Diversity

- If there are more than eight, but less than 24 required trees, no more than 40 percent of them can be of one species.
- If there are more than 24 required trees, no more than 20 percent of them can be of one species.
- If there are more than 25 required shrubs, no more than 75 percent of them can be of one species.

7. Fences and Walls

- When a development includes a fence or wall, the following guidelines and standards shall apply:
 - The maximum height of a fence or wall shall be 8 ft. in the rear yard, 3 ft. in the front yard, and 6 ft. in the side yard. A side yard fence or wall may be extended to 8 ft. with Planning Commission approval.
 - Walls and fences shall be constructed of high quality materials, such as decorative blocks, brick, stone, treated wood, and wrought iron.

a. Prohibited materials include:

- Smooth-faced gray concrete block, smooth-faced painted or stained concrete block, smooth-faced concrete panels;
- Unfinished wood;
- Chain link; and
- Corrugated metal siding.

- Breaks in the length of a fence shall be made to provide pedestrian connections to the perimeter of a site or to adjacent development.
- The maximum length of continuous, unbroken, and uninterrupted fence or wall plane shall be 50 ft. Breaks shall be provided through the use of columns, landscaping pockets, transparent sections, and/or a change to different materials.
- Fences and walls shall be set back from the front and side lot line to allow a landscape setback area. Such setback areas shall be landscaped with a turf, shrubs, and/or trees, using a variety of species to provide seasonal color and plant variety.
- Use of landscaping beyond the minimum required in these standards is strongly encouraged to soften the visual impact of fences and walls.

Zoning District Recommendations

The following land use and zoning recommendations are based upon the recommendations contained in the local Comprehensive Plans and other related regulatory documents, the results of the Community Preference Survey, input from the Steering Committee, and feedback provided at the three public meetings held as part of this project. In order to achieve the preferred development pattern it is recommended that both Sharon and Hermitage consider incorporating some or all of the following recommendations into their existing regulatory framework.

Character Zone #1: Irvine Gateway

The non-residential design standards beginning on page 114 should be applied to the commercial properties within Character Zone #1. Over time, as properties re-develop, the application of these design standards and guidelines will improve the overall appearance of the Irvine Avenue Gateway located at the western City limit.

A significant number of properties along the east side of Irvine Avenue are in the Local Business Zoning (C-2) District. The C-2 District allows the placement of automotive related uses in close proximity to the existing residential uses within this area. The proliferation of auto related uses (used car sales, auto repair operations, etc) will likely degrade the quality of the corridor and negatively impact the residential property in Character Zone #1. There are three zoning techniques that Sharon should consider to reduce the impact of these uses and preserve Irvine Avenue’s role as a residential neighborhood.

- At a minimum, the C-2 District should be amended to require a Special Exception for all auto-related uses. This will enable the Planning Commission to ensure that the size, scale and appearance of the proposed use are compatible with the residential character of the area.
- Require a minimum distance between such uses to avoid a concentration in one area.
- Eliminate auto-related uses from the Irvine Avenue corridor. This can be accomplished by amending the C-2 District or creating a new commercial zoning classification that accommodates limited commercial activity to serve the surrounding neighborhoods.

Character Zone #2: Sharon CBD

It is recommended that the existing C-1 and C-1A Districts be consolidated into a single Central Business (CB) Zoning District. The Central Business (CB) Zoning District is intended to create a safe and vibrant atmosphere in downtown Sharon where people live, learn, work and play. The limit of the CB District includes the area surrounding the Business Route 62/Sharpsville Avenue intersection and extends to the area surrounding the Business Route 62/Irvine Avenue intersection. The northern limit of the CB District is Silver Street and the southern limit is Connelly Boulevard. This also referred to Character Zone #2.

It is recommended that the following zoning and regulatory provisions are put in place for downtown Sharon that would serve to dramatically increase the number of residents living in this area. In addition, the CB District reinforces the role of the downtown as the activity center of the region and a meeting place for community residents and visitors alike. In order to accomplish this, goods and services should be accommodated that satisfy the needs of the City’s residents, workers and visitors.

Purpose

The purpose of the Central Business (CB) District is to foster a concentration of small-scale, mixed use activity and to support the goals and objectives contained in the 2007 Joint Comprehensive Plan. The CB District is established to encourage residential opportunities while retaining and further developing a broad range of commercial, office, institutional, public, cultural and entertainment uses and activities. Investment in this District should reinforce the compact, pedestrian-oriented development pattern and preservation of the traditional historic character.

Permitted & Specially Permitted Uses

The following uses are to be permitted, or permitted with a special exception, within the CB District:

	Permitted	Special Exception
A. Commercial		
Professional, medical or dental office	X	
Dance, art, or music studio	X	
Bank or financial institution	X	
Retail or personal service store or shop	X	
Shopping center		X
Veterinary clinic	X	
Mortuary or funeral home		X
Laundromat or dry cleaning outlet	X	
Drinking establishment or tavern	X	
Fast-food restaurant	X	
Sit-down restaurant	X	
Take-out restaurant	X	
Dance hall, theater, private club	X	
Bowling alley	X	
Indoor recreation facility		X
Lodging	X	
Conference/meeting center		X
Motor vehicle parking lot		X
Outdoor sales or display		X
Drive through with permitted use		X
Mix of permitted uses	X	
B. Institutional		
Educational institution	X	
Nursery school	X	
Church or religious institution	X	
Hospital or health care facility		X
Public utility		X
Public or municipal use	X	
Telecommunications facilities		X
C. Residential		
Apartment over commercial	X	
Multi-family dwelling	X	

Dimensional Requirements

- A. The existing dimensional requirements for the downtown area are appropriate and should not be modified. However, new construction shall have a maximum setback between zero (0) and five (5) feet from the public right-of-way. Relief from this provision may be provided for pedestrian amenities such as recessed entries or chamfered corners. This will ensure that buildings are located at or near the public sidewalk and engage the public realm.
- B. New construction shall extend to both side property lines.
- C. New construction shall be or appear to be two stories in height.
- D. New construction or remodeling shall incorporate a roof form which reflects the adjacent late 19th or early 20th century buildings. Flat roof slopes shall slope to the back and will have a decorative cornice at the top of the building. Peaked or gable roofs shall have significant overhangs and decorative brackets are encouraged.
- E. Entry points shall be located to afford direct access from the sidewalk. Corner buildings may have two separate entry points or a single entry point at the corner.
- F. All of the facades of the building which face a public street shall be architecturally consistent (i.e. building materials, style, etc.) with each other.

Design Requirements

- A. The pedestrian zone (2' to 8' above the sidewalk) shall have a minimum of 60% clear glass. Opaque or heavily tinted glass is not permitted.
- B. The pedestrian zone should not be obscured to allow visual access to the interior of the building. Displays that allow visual access of a minimum of 3 ft. into the building (excluding window treatments such as curtains or blinds) shall be permitted.
- C. A minimum of 25% percent of the façade for the upper floor shall incorporate transparent glass openings.
- D. Existing windows shall not be covered or changed in size unless the proposed change is part of an effort to restore the original appearance of the building.
- E. No external security devices (coiling shutters, accordion gates, etc.) shall be utilized. Alternative security systems such as lighting, alarms, and interior barriers are to be used when necessary.
- F. A visual separation shall be provided between the first and second story of a building. This element may consist of decorative trim, awnings, or a change of material that creates added relief in order

- to add a shadow line that delineates the top of the first story.
- G. If awnings are placed on a façade they shall be consistent with the shape of the window that they are located over. For example, an awning placed over an arched window shall be arched and an awning placed over a rectangular window shall be a flat topped awning.
- H. Awnings shall be made of flexible woven, natural or synthetic materials.
- I. Awnings shall have a triangular or curved profile.
- J. Awnings may not be backlit.

In addition, site plan approval of a proposed re-development plan for the property must be obtained prior to the issuance of a demolition permit in the CB District.

The limited uses combined with these design requirements are an effective way to improve the urban character of downtown Sharon. However, there is a second approach to regulating land uses in downtown Sharon that should be considered. At present, most of the existing infrastructure in the downtown area is underutilized. This includes road capacity as well as building floor space. As a result, the City should make every attempt to bring activity back to this area. An alternative approach consists of allowing virtually all types of uses with some exceptions. These exceptions may include such uses as homeless shelters, adult uses, and junkyards. Due to the potential broad range of uses that this approach could foster, design of the buildings and sites become even more critical. As a result, this approach requires a very detailed list of design standards and graphics to ensure that all uses are held to the same level of design.

Character Zone #3: Sharon Transitional

Business Route 62 is currently zoned Local Business (C-2) and Public/Institutional (I) in Character Zone #3. It is recommended that the existing C-2 District beginning at Elm Avenue be rezoned to the State Street Mixed Use (SMU) District. The SMU District will provide a transition between the auto-oriented commercial activity that has been developed along Business Route 62 in Hermitage with the more compact and traditional fabric of downtown Sharon. The SMU District generally includes the area surrounding the Business Route 62/Elm Avenue intersection and extends to the eastern City Line. This area is also referred to Character Zone #3. The specific provisions of the SMU are as follows:

Purpose

The State Street Mixed Used (SMU) District is intended to promote and facilitate the transformation of the State Street corridor, primarily between downtown Sharon and the eastern City Line, from an area currently characterized by small-scale buildings fronted by surface parking lots to a dense mixed-use urban center. The SMU District is established to continue the blend of retail, office, and civic uses that serve local residents and visitors of the Sharon Regional Hospital. The SMU shall be pedestrian-oriented and bicycle friendly with lively and vibrant street activity. Multimodal access will be encouraged. Shared parking and vehicular access will enhance the pedestrian experience and create the ability to "park once" and frequent multiple establishments.

Permitted and Specially Permitted Uses

The following uses are to be permitted or permitted with a special exception within the SMU District:

	Permitted	Special Exception
A. Commercial		
Retail businesses	X	
Shopping centers / large scale retail		X
Personal & professional services	X	
Laundromats	X	
Offices & professional offices	X	
Medical & dental clinics	X	
Financial institutions	X	
Eating & drinking establishments	X	
Social & fraternal clubs	X	
Funeral homes	X	
Motel or inn (less than 10 rooms)	X	
Day care centers	X	
Kennels & veterinary clinics		X
Service stations		X
New car sales		X
Used car sales*	-	-
Auto / truck repair*	-	-
B. Institutional		
Educational institution	X	
Nursery school	X	
Church or religious institution	X	
Public utility		X
Public or municipal use	X	
C. Residential		
Residences as a secondary use	X	
Multi-family dwelling	X	

* In conjunction with new car sales

D. Traditional neighborhood development is a Conditional Use.

Dimensional Requirements

- A. Minimum Lot Area 7,500 sf
- B. Minimum Lot Width 60 ft
- C. Minimum Front Yard. The minimum front setback of any building shall be 10 ft. The maximum front setback shall be 30 ft. when accommodating outdoor eating/sitting areas and/or site amenities. On corner lots, both yards abutting streets shall be considered front yards.
- D. Total Side Yards 20 ft.
- E. Minimum Side Yard. The minimum side setback shall be 10 ft. unless adjoining a residential district, in which case it shall be 15 ft.
- F. Minimum Rear Yard 30 ft
- G. Maximum Lot Coverage 35%
- H. Maximum Height Structure 40 ft

Front yard parking is prohibited. The design standards and guidelines beginning on page 114 of the report shall apply to the SMU District.

Character Zone #4: Hermitage Transitional & Character Zone #5: Hermitage Commercial

Business Route 62 is currently zoned CC-1 in Character Zone #4 and CC-2 in Character Zone #5. A review of the permitted uses, conditional uses, special exceptions and dimensional requirements for each of these districts indicates that modifications to these items are not necessary. The most significant issues within these two Character Zones are the appearance of the commercial properties and the large number of curb cuts onto Business Route 62. The aesthetics of the built environment can be addressed using the design standards and guidelines beginning on page 106 in the report. The proliferation of curb cuts can be mitigated over time by implementing the Access Management Overlay District.

Character Zone #6: Hermitage Gateway

It is recommended that the existing CC-1 District east of Snyder Road be rezoned to the Gateway Transitional (GT) District. The Gateway Transitional (GT) District will provide a transition between the higher intensity commercial and residential activity that has been developed along Business Route 62 in Hermitage with the predominately rural character that exists east of North Keel Ridge Road. The GT District generally includes the area surrounding the Business Route 62/Snyder Road intersection and extends to the area surrounding the Business Route 62/North Keel Ridge Road intersection. This also referred to Character Zone #6.

It is recommended that zoning and regulatory provisions are put in place within this area that would serve to accommodate additional residential, commercial and entertainment type uses. In order to create a successful transition to the rural area to the east, the proposed land uses in this district should be less intense than the remainder of the study area. In addition, the larger parcels that exist in the district create the opportunity to provide larger setbacks and more green space while accommodating the necessary site infrastructure (e.g. parking, drainage, etc).

Purpose

The purpose of the Gateway Transitional (GT) District is to support the goals, objectives, and policies contained in the local planning documents. More specifically, the GT District is intended to create an orderly transition between higher density activity centers and rural or undeveloped portions of Hermitage. The GT District is intended to foster a wide variety of land uses including multi-residential, commercial, and entertainment activity that serves the daily needs of local residents and the traveling public. In order to accomplish this, the GT District regulates the location, design and use of structures and land to; 1) create a continuous linear greenspace and landscaped area along Business Route 62 and 2) to ensure the safe and efficient movement of vehicles along the corridor.

Permitted and Specially Permitted Uses

The following uses are to be permitted or permitted with a special exception within the SMU District:

	Permitted	Special Exception
A. Commercial		
Retail businesses	X	
Personal & professional services	X	
Laundromats	X	
Frozen food lockers with retail	X	
Offices & professional offices	X	
Financial institutions	X	
Theaters, bowling alleys & skating rinks	X	
Restaurants & drive-in restaurants	X	
Commercial amusement	X	
Funeral homes	X	
Computer assembly & software development	X	
Motels	X	
Day care centers	X	
Veterinary clinics		X
Service stations		X
New car sales		X
Used car sales*	-	-
Builder supplies		X
Auto truck repair*	-	-
* In conjunction with new car sales		
B. Institutional		
Educational institution	X	
Nursery school	X	
Church or religious institution	X	
Public utility		X
Public or municipal use	X	
Telecommunications facilities	X	
C. Residential		
Single family dwelling	X	
Multi-family dwelling	X	

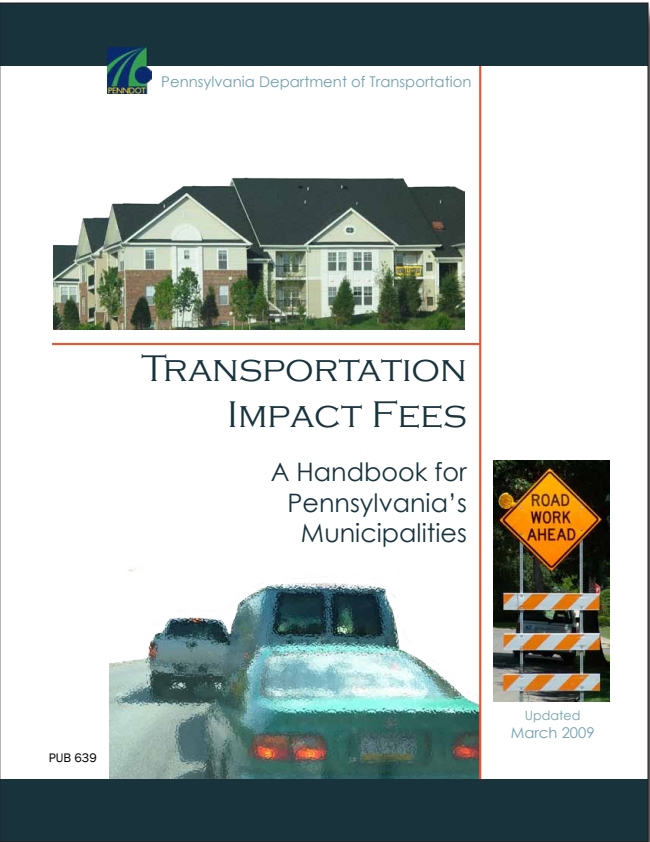
Dimensional Requirements

A. Minimum Lot Area	40,000 sf
B. Minimum Lot Width (Corner lot/Interior Lot)	150/150 ft
C. Minimum Front Yard	50 ft
D. Minimum Side Yard	20 ft
E. Minimum Rear Yard	50 ft
F. Maximum Lot Coverage	40%
G. Maximum Height Structure	40 ft

Building & Site Design Requirements

The design standards and guidelines beginning on page 114 of the report shall apply to the SMU District.

IV ALTERNATIVES & RECOMMENDATIONS



TRANSPORTATION IMPACT FEES HANDBOOK

Checklist for Establishing Transportation Impact Fees

Establish Traffic Impact Fee Advisory Committee (TIFAC)

- ☐ Governing body approves a resolution appointing the TIFAC, establishing interim impact fee, and defining general study area
- ☐ First advertisement of Notice of Intent to adopt a transportation impact fee ordinance
- ☐ Second advertisement of Notice of Intent to adopt a transportation impact fee ordinance

Complete Land Use Assumptions Report

- ☐ 30-day review period for county planning, adjacent municipalities, and the school district
- ☐ First advertisement of TIFAC public hearing
- ☐ Second advertisement of TIFAC public hearing
- ☐ TIFAC holds public hearing
- ☐ TIFAC provides governing body with recommendation for action on Land Use Assumptions Report
- ☐ Governing body approves Land Use Assumptions Report by resolution

Complete Roadway Sufficiency Analysis

- ☐ TIFAC provides governing body with recommendation for action on Roadway Sufficiency Analysis
- ☐ Governing body approves Roadway Sufficiency Analysis by resolution

Complete Capital Improvements Plan

- ☐ First advertisement of TIFAC public hearing
- ☐ Second advertisement of TIFAC public hearing
- ☐ Capital Improvements Plan on public display for at least 10 business days prior to public hearing
- ☐ TIFAC holds public hearing
- ☐ TIFAC provides governing body with recommendation for action on Capital Improvements Plan
- ☐ Governing body approves Capital Improvements Plan by resolution

Adopt Transportation Impact Fee Ordinance

- ☐ Impact fee ordinance must be on public display 10 business days prior to scheduled adoption by the governing body
- ☐ Governing body adopts the transportation impact fee ordinance

Note: The procedural steps contained in this checklist are those provided by Sections 504 and 505 of the MPC. The municipality should consult its solicitor or general counsel to determine whether any additional steps are needed for the adoption of its ordinance based on the normal procedures typically used by the municipality for advertisement of public hearings and adoption of ordinances.

Page from PennDOT Transportation Impact Fee Handbook

Strategic Funding

Transportation Impact Fees

An option for funding would be through a mechanism called Transportation Impact Fees. This fee is developed to assist municipalities in covering the costs of improvements to local roadways impacted by new development. The municipality may use the fees incurred to upgrade existing network deficiencies and improve capacity for traffic generated by the new development. Fees are proportioned based on the level of development taking place.

In Pennsylvania, this impact fee is permitted by the Pennsylvania Municipalities Planning Code (MPC). A rigorous process must be followed enacting the impact fee ordinance. Contained within the Pennsylvania Transportation Impact Fee Handbook (PennDOT, 2009), is a checklist, followed by a detailed explanation of every requirement to be met to establish an impact fee. The document may be found at: <ftp://ftp.dot.state.pa.us/public/Bureaus/Cpdm/ImpactFees.pdf>. Additionally, an example report completed for the Lower Providence Township of Montgomery County, Pennsylvania (May, 2009) can be found at: www.lowerprovidence.org/documents/PZ-Act20905-2009-Adopted20090629.pdf.

Tax Increment Financing Guarantee Program

The Tax Increment Financing (TIF) Guarantee Program simply put is a financing mechanism that helps raise funds for a project "when there are no other public or private funds to finance it (Partners for Economic Solutions, 2011)". The idea is to use the tax revenues generated by the increased incremental assessed values, over a period of up to 20 years, of the TIF project to be used for public infrastructure improvements related to the project. In Pennsylvania, the program is "designed to promote and stimulate the general economic welfare of various regions and communities...and assist in the development, redevelopment and revitalization of brownfield and greenfield sites (TIF Program Guidelines, Department of Community and Economic Development, March 2007)."

There is no new "tax" associated with the development or redevelopment of a project. The project site or area around which the project will encourage redevelopment is defined as a TIF district. The district's tax rate is capped at its currently assessed value. As redevelopment occurs, the incremental increase in assessed property values do not require property owners to pay a higher tax rate, unless the revenues from the TIF do not meet the debt service attributable to the project.

As construction and ultimately full development or redevelopment of the project occurs, the incremental increases in assessed tax values and revenue generated from the project goes into a special fund used to repay the bond service. Additionally, the revenue generated from the incremental rate helps fund public improvements (i.e., roadway improvements, parking) and project related costs as a result of the increased property tax. Any revenue that is not needed goes to the presiding jurisdiction. At this point in the TIF project, redevelopment of additional properties has taken root encouraged by the initial investment.

Once the debt service and the bonds have been repaid, the future taxes generated incremental increases in assessed value from the TIF are reallocated to the local government.

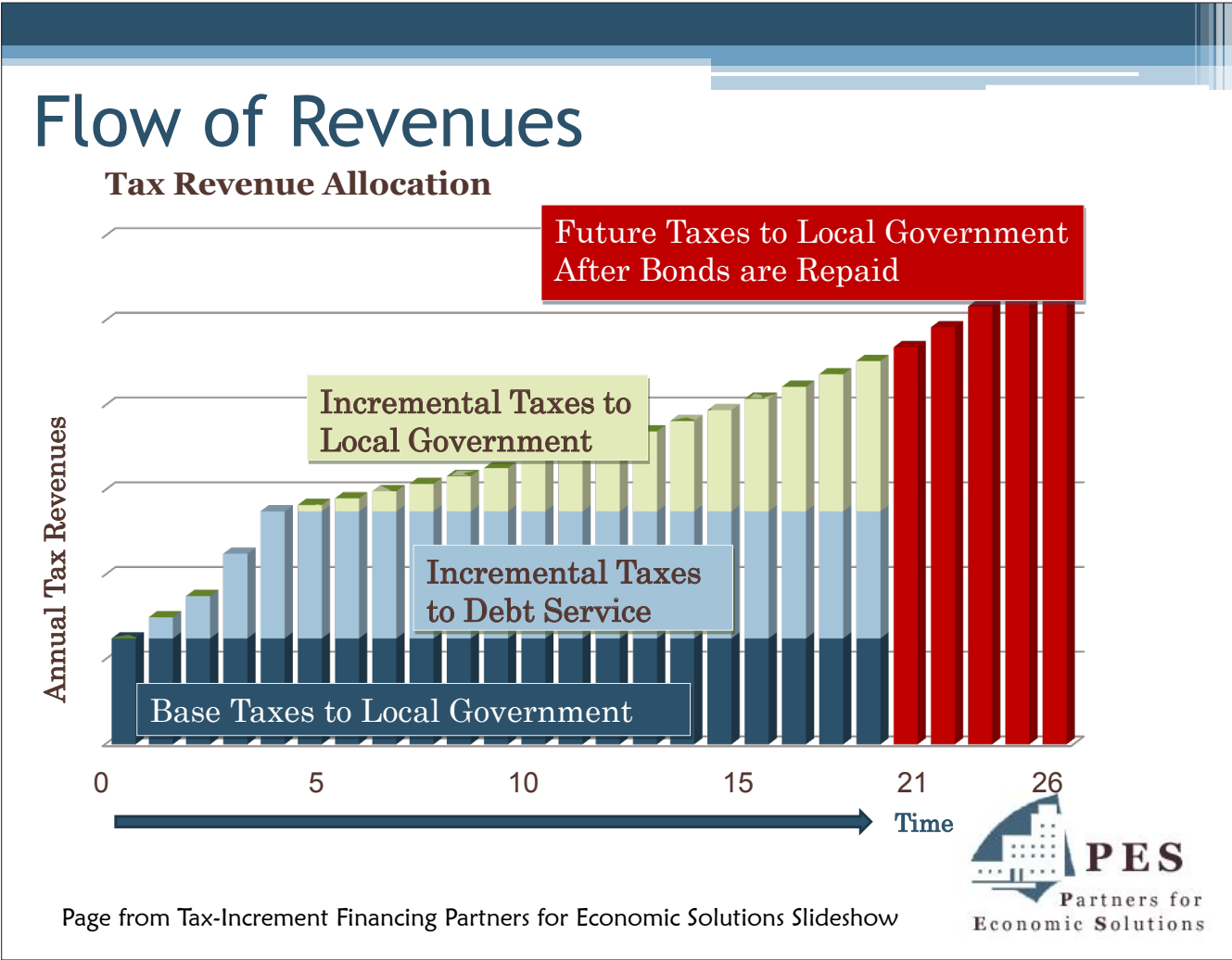
To summarize a typical TIF project, the following list depicts the process for which a TIF follows (PES, 2011):

1. Define TIF district – can be a smaller project site or larger redevelopment area
2. Establish base assessed value – tax rate is capped at currently assessed values

3. Specify funded improvements – identify projects to be funded using the TIF
4. Issue non-recourse bonds – made through the Commonwealth Financing Authority via a local issuer
5. Make public purpose improvements – projects can include streets, parking facilities, sidewalks and bridges to name a few
6. Development increases values – as redevelopment occurs, the assessed property values incremental increase over time
7. TIF revenues to special fund – dedicated fund account to be used for improvements
8. Bonds repaid and all taxes go to jurisdiction – TIF revenues are used as part of regular taxes.

In Pennsylvania, there is a maximum guarantee of funding per project of \$5 million. This funding is distributed by the Commonwealth Financing Authority (CFA) and the Department of Community and Economic Development (DCED). Priority is given to projects which reside in areas strife with economic hardship or sites within an urban core that have the potential to be properly utilized. Communities with a core area also have the benefit of a higher priority. The use of a TIF is to reduce the risk associated with a project by improving market access and reducing the expenditure on capital costs.

The chart at the top right of this page illustrates the various stages of the TIF program through its implementation period. In the first year of the program, the current base tax rate for the defined TIF district is capped. From years one to five, the incremental taxes accrued from the development begin to increase. From years five to 20, the incremental increase in taxes go towards paying off the debt service from the bond issuance, as well as implementing public purpose improvements to encourage area wide redevelopment. As revenues from the TIF exceed the need to repay the debt service, the excess amount goes toward the paying the jurisdictional taxes.



Pedestrian & Bicycle Improvements

Pedestrian/Bicycle Safety - Linkage Action Plans

An important aspect of a high quality pedestrian and bicycling environment is the presence of sidewalks and bicycle facilities. Bicycle facilities may include bike lanes, shared roadways with bicycle signage, or a multi-use trail that is separated from the roadway network. Sidewalks are critical in allowing adults, children, and physically challenged individuals to travel along the transportation network. Bicyclists tend to prefer routes that have signage notifying drivers of their presence or separated lanes giving them their own space on the roadway.

Recommendation

Figure 67 illustrates the recommended routes for a more complete bicycle network. Bicycle parking facilities should be installed at locations where land uses dictate higher trip generation levels of bicyclists. In addition, sidewalks should be installed along State Street throughout the City of Hermitage in areas that provide connection to activity generating land uses.

Specific Strategies for Improvement:

Sidewalks should be at least five (5) feet in width to allow pedestrians ample room to walk side by side or against one another with a minimum of five (5) feet of buffer space.

Bicycle boulevards are a creative and attractive way to provide a comfortable environment to cyclists of all ages and abilities. These routes are located on low-volume, low-speed streets that have been enhanced for bicycle travel through traffic calming, signage, pavement markings, and intersection crossing treatments. They provide a recreational or functional travel route depending on the type of user.



Highland Road bike lanes

Bicycle signage is another strategy to implement along roadways which are seen as highly travelled routes for cyclists. Green bicycle route signs or "Share the Road" signs notify drivers of the presence of bicyclists.

Additionally, along routes that have travel lanes too narrow in

width for bike lanes, shared lane pavement markings, or "sharrows," can be installed. These markings are placed within the travel way, off to the side where cyclists are more likely to ride, to help guide cyclists along the street and indicate to motorists the existence of riders. Sharrows can be implemented on streets with or without on-street parking.

Applications for pedestrian and bicycle facility design should adhere to those principles contained in PennDOT's Smart Transportation Guidebook.



Bicycle shared lane markings ("sharrows") in Buffalo, New York

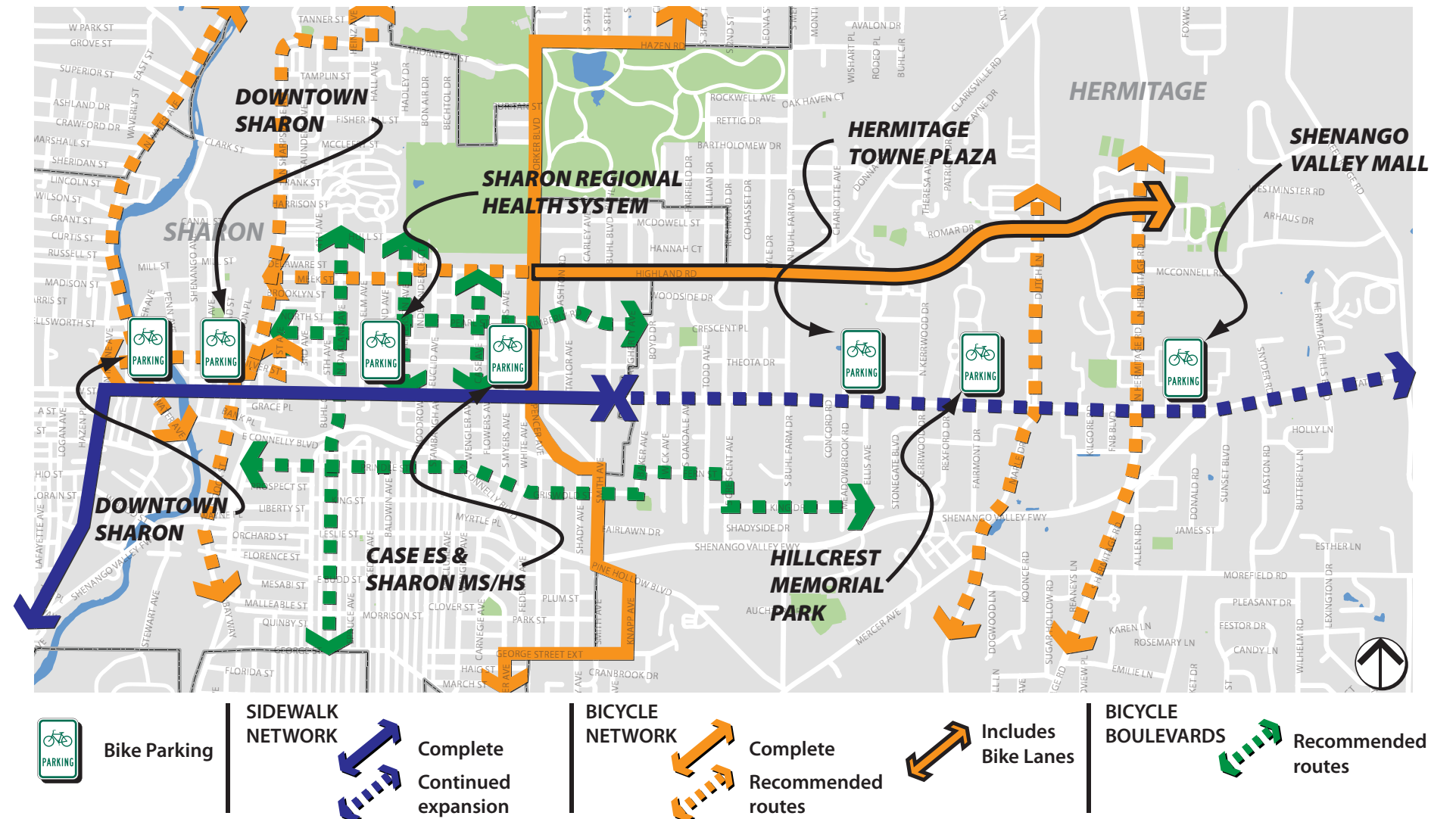


Figure 67: Pedestrian & Bicycle Linkage Plan

Safe Routes to School

Safe Routes to School (SRTS) is a national program that helps create safe, convenient and fun opportunities for children to walk and bike to and from their schools. SRTS programs require collaborative partnerships amongst local stakeholders with interests to improve safety, promote healthy lifestyles, and improve environmental quality around schools. To accomplish this, a comprehensive program must be established to create an environment that enhances, supports and sustains walking and cycling as viable options for travel. With this in mind, SRTS emphasizes a holistic approach to create change that encompasses the five (5) E approach; Engineering, Enforcement, Encouragement, Education and Evaluation.



Deb Hubsmith, founding director of the SRTS National Partnership, has testified to Congress, stating:

In only two years, we documented a 64 percent increase in the number of children walking, a 114 percent increase in the number of students biking, a 91 percent increase in the number of students carpooling, and a 39 percent decrease in the number of children arriving by private car carrying only one student.

Recent changes to the Federal transportation bill has altered the way the SRTS program functions. Previous legislation separated the SRTS program from other programs and allowed for dedicated funding towards SRTS activities. Today, however, Congress has signed a new bill, Moving Ahead for Progress in the 21st Century (MAP-21). This bill effectively reduces the total funding set aside for SRTS activities, and other biking and walking programs, while combining it with other federal programs that compete for funding under the umbrella of Transportation Alternatives.

An SRTS plan incorporates several components to make it a truly successful program. First, community input is critical. Schools are typically located in the heart of communities. Any support that is needed to implement a successful SRTS program should attempt to garner the support

of nearby community members. An SRTS task force should be organized that consists of community leaders, school officials (i.e. principal, board members), local health officials, the local transportation department, bicycle/pedestrian advocacy groups, and local public officials. This list is a small sample of interest groups whom could participate in a SRTS task force. The SRTS project leader may wish to expand upon those who can participate in the program.

Second, upon formation of a task force and kick-off meeting, an assessment of the existing conditions around the school needs to take place. This assessment can be done through walkability and bikability audits, as well as site based school assessments. Information on performing an audit can be found at www.saferoutespa.org. There, schools, Kindergarten through 8th grade, can apply for a walkability audit. These audits are an important step as they identify issues and concerns related to children traveling to school and assist in development project specific recommendations. This study has reviewed the existing conditions around West Hill Elementary and Case Elementary/Sharon Middle School; however, a more detailed audit can be performed with staff from Pennsylvania's SRTS program.

Finally, upon identification of issues through field reconnaissance and public input, the team can create achievable goals. A sample goal could be, "to reduce traffic congestion by 15%...as measured by the number of car drop-offs/pick-ups." Once the project team has formulated a list of goals, specific action steps or recommendations may be developed. These recommendations will look to address the Five E's, as stated earlier.

Currently the West Hill Elementary, Case Elementary and Sharon Middle School do not provide busing. Students may have to walk from up to two miles away in some cases. Those students who choose not to walk are driven by their parents. Traffic volumes created from students being dropped off or picked up causes congestion on the roadways and increased vehicle emissions.

Crossing guards are located along State Street, as depicted in Figures 67 and 68. It is, therefore, important that safe routes are provided for students walking or biking to school. As obesity rates in the United States continue to rise, it is critical that children are provided the best opportunity to live physically active lifestyles.

The following recommendations speak to the several approaches to SRTS planning.

Recommendation - Engineering

Crosswalks

Upon examining the school zone crosswalks along State Street, it was found that most crosswalks were in poor condition (i.e. faded paint, pavement quality). Crosswalks play an important role in guiding pedestrians to proper crossing locations, as well as allowing drivers to clearly see the locations pedestrians are crossing. They are commonly found at intersections or in mid-block locations where a high volume of pedestrians may be crossing.

Additionally, the use of advance warning signage and school zone speed limits contribute to a safer crossing environment for school children. Currently, the area in front of Case Elementary (currently under construction) and Sharon Middle/High School from Forker Boulevard/Spencer Avenue to Case Avenue along State Street has a school zone speed limit of 15MPH. However, no other school related signage is found within this school zone. Along Forker Boulevard, a pedestrian crossing sign can be found on the southbound side, as well as a school zone crossing sign on the northbound side. However, the exact locations of the crossings are not indicated.

Install contrasting textured crosswalks at the intersections of Case Avenue, Flowers Avenue, South Myers Avenue/School Driveway, White Avenue, and Forker Boulevard/Spencer Avenue along State Street. See Figure 67 for a detailed illustration of the proposed locations.

Advance Warning Signage

In addition to upgrading the quality and texture of the sidewalks, advanced warning signage for school crossings should be placed along State Street in advance of student crossing locations. At locations of a marked crosswalk, the school zone crossing sign (MUTCD W11-2) should be enhanced with the downward facing diagonal arrow (MUTCD W16-7P) notifying drivers the exact location of the crosswalks. Figures 68 and 69 illustrates the locations of the proposed signage and enhanced crosswalks at West Hill Elementary, Case Elementary, and Sharon Middle/High School. In the case of Sharon Middle/High School, a mid-block crossing location should be installed along Forker Boulevard using a continental style crosswalk with the corresponding school crossing warning signage.



Case Elementary and Sharon Middle School



Figure 68: SRTS Case Elementary / Sharon Middle School

West Hill Elementary School

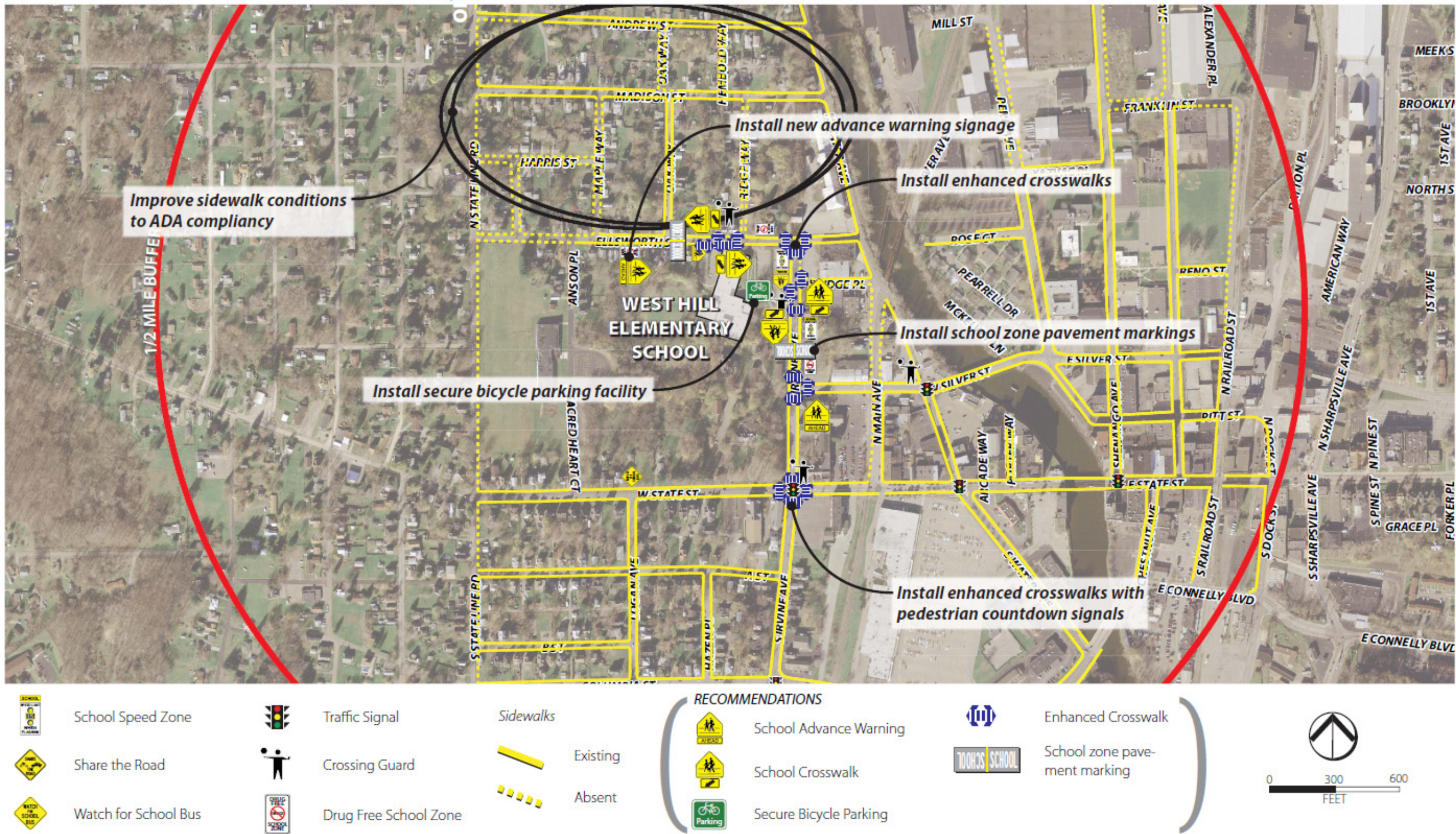


Figure 69: SRTS West Hill Elementary

Pavement Marking

School zone pavement markings provide another indication to drivers and improve safety within the school zone. It is recommended that pavement markings be installed within the school zone in accordance with MUTCD guidance at the locations shown in Figures 67 and 68.

SCHOOL

Secure Bicycle Parking

Obesity levels among school children have nearly tripled over the past 30 years. It is important to provide an environment for children to engage in physical activity. Biking and walking are two modes of travel that are encouraged for a more active lifestyle. To encourage school children to bike to school, secure bike parking facilities should be installed at West Hill Elementary and Case Elementary and Sharon Middle/High School. Attributes of good bike parking include:



- Protection from vandalism/theft
- Protection from damage to the bicycle
- Protection from weather
- Convenient to destination

Countdown signals

Countdown Signals include a pedestrian signal with standard shapes and color and an added display showing the countdown of the remaining crossing time. The countdown timer starts either at the beginning of the pedestrian phase or at the onset of the pedestrian clearance interval. The timer continues counting down through the pedestrian clearance interval. At the end of the pedestrian clearance interval, the countdown device displays a zero and the DON'T WALK indication appears.



Enforcement

This approach incorporates law enforcement efforts to ensure drivers, bicyclists and pedestrians obey traffic laws and practice appropriate behaviors. Examples of enforcement strategies include:

- Speed trailers and neighborhood speed watch programs;
- Sidewalk and property maintenance laws;
- “Keep Kids Alive – Drive 25 Campaign” – A community based approach detailing how to reduce driving speeds;
- Pedestrian decoy operations – Undercover officers dress as typical pedestrians and cite those who are in violation;
- Safety patrols at student drop-off and pick-up locations; and
- Photo enforcement



More information can be found at guide.saferoutesinfo.org.

Education and Encouragement

Education and Encouragement recommendations are operational measures that the school should consider to enhance the effectiveness of the physical improvements recommended previously. These tools focus on teaching traffic, pedestrian and bicycle safety to parents and students, increasing public awareness of Safe Routes to School goals and benefits, and promoting changes in behavior to increase walking and bicycling. Educational activities teach children age-appropriate skills related to bicycling and walking, familiarizing students with the positive benefits of bicycling and walking, and foster greater attention by the community in general to the need to operate motor vehicles more safely, especially in school zones. Encouragement activities include a variety of special events and



IV ALTERNATIVES & RECOMMENDATIONS

contests, outreach campaigns, presentations to school and community groups, and surveys of current practices and attitudes related to the school commute. A major objective of educational and encouragement tools is to increase the understanding by parents, school personnel, students, and the community of the health and safety concerns that can be addressed by successful Safe Routes to School programs.

Walk or Roll to School Day

This international annual event occurs on the first Wednesday of October. In the state of Pennsylvania, it is formally known as Walk or Roll to School Day. The program is designed to promote walking and bicycling on a designated day to bring attention to the importance of safe routes to school. Consequently, a common goal of the program is to encourage school children to walk or bike to school on a more regular basis. Communities throughout the nation have adapted their own versions of the program. Pennsylvania's Safe Routes to School website, www.saferoutespa.org provides ideas on getting schools involved in this annually held event.

Additional walk and bike to school days can be held yearly, monthly, or even weekly, depending on the level of support and participation from children, parents, and school and local officials. Some schools organize more frequent days – such as weekly Walking/Wheeling Wednesdays or Walk and Roll Fridays – to give people an opportunity to enjoy the event on a regular basis. Parents and other volunteers accompany the children, and often there are designated staging areas along the route to school where different groups can gather and walk or bike together. The events should be promoted through press releases, articles in school newsletters, and posters and flyers for children to take home.

Bicycle Rodeos

A bicycle rodeo provides children with a basic understanding of the rules of the road; educates those children and their parents about elementary bike safety; gives trained personnel a chance to look over the equipment the kids are riding; and involves parents, teachers, and/or local civic organizations in a worthwhile activity. A bicycle rodeo involves “stations” that teach skills, such as:

- Looking over a shoulder without weaving;



ALTERNATIVES & RECOMMENDATIONS IV

- Fast-braking without skidding; and
- Dealing with traffic at intersections

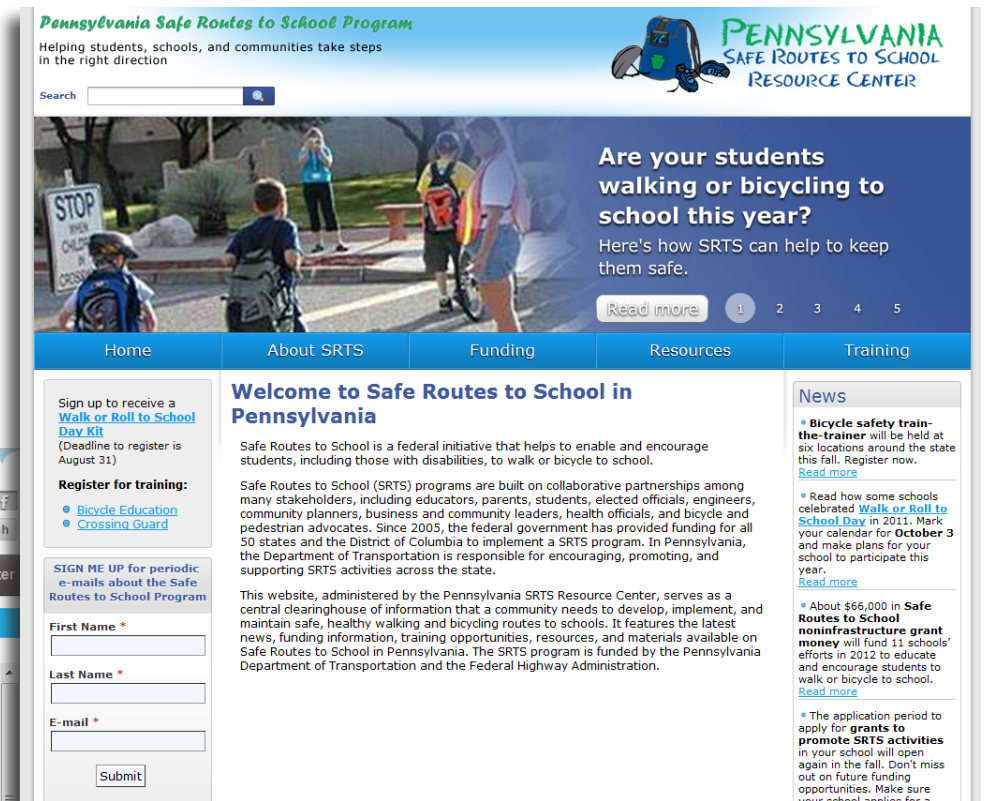
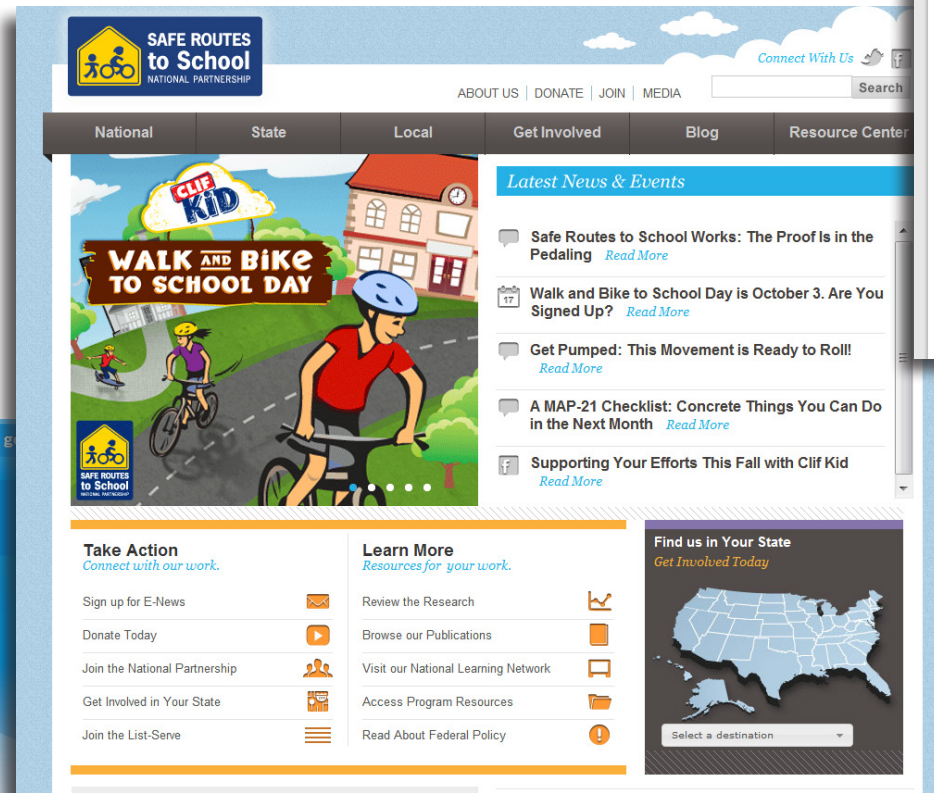
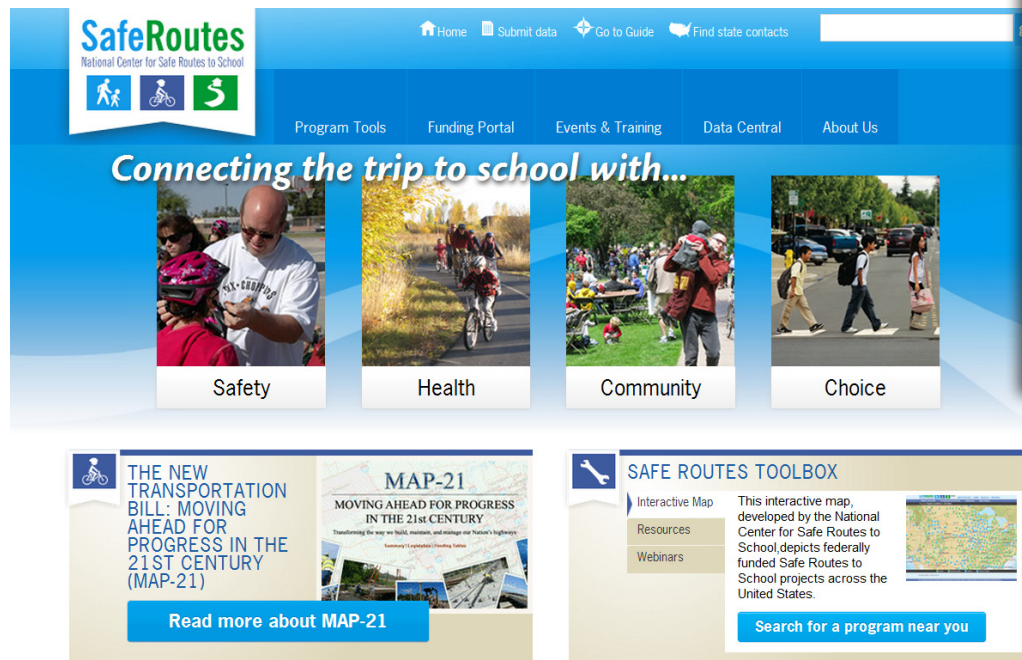
Walking School Bus

The walking school bus is a group of school children walking to school under adult supervision. Routes can be planned with specific meeting locations and timetable.

Evaluation

Evaluation of an SRTS program is important for monitoring the outcomes and results of the plan. Data is critical in assessing conditions prior to implementation of an SRTS plan and after the program has been initiated. The benefits can include making sure your school is attaining the goals set forth at the beginning of the program, determining if the program is still addressing the problems identified, and ensuring the school is able to receive long-term funding.

More information on SRTS program in the state of Pennsylvania can be found at www.saferoutespa.org. Pennsylvania has published an in-depth document filled with resources regarding program startup; actions to take; and funding for infrastructure and non-infrastructure projects called *Comprehensive Guide to Safe Routes to School in Pennsylvania, August 2011*.



Hospital Zone Improvements

The streetscape in front of Sharon Regional Health System experiences high volumes of vehicular and pedestrian traffic, with the latter comprised mostly of hospital staff and young school children attending St. Joseph's School. However, the school will likely be closing within the next year as construction of the new Case Elementary School is completed. St. Joseph's School will then be demolished to make room for the expansion of Sharon Regional Health System. Employees of the hospital frequently cross State Street accessing the nearby parking lots. Drainage and stormwater management issues have also been noted within this area.

Recommendation

Both short and longer term pedestrian safety, traffic calming, operational and streetscape improvements are recommended for State Street, adjacent to the Sharon Regional Health System.

The short term improvement strategy includes the following:

- Install high visibility decorative wheelchair-friendly crosswalks and flush contrasting asphalt medians
- Install landscape elements including plantings and low scrubbed landscaped areas
- Install street furniture including benches and bicycle racks
- Reconfigure the south leg of the Jefferson Avenue/State Street intersection to align with the north side of the intersection, for improved safety and efficiency for all modes using the intersection
- Coordinate all Jefferson Avenue/State Street intersection improvements with future hospital expansion/redevelopment plans, and/or pedestrian safety and circulation plans on hospital owned property, on both sides of State Street

The second, long term improvement phase includes the following:

- Convert approximately 350 feet of Ormond Street to one-way northbound traffic flow, from State Street north to its intersection with a potential new privately constructed east-west roadway
- Coordinate traffic control with a potential new privately constructed east-west road connection, situated approximately 350 feet north of State Street, between Jefferson Avenue and Elm Avenue
- Support potential infill development including office and mixed-use buildings
- Initiate development of a public "pocket" park at the corner of Ormond Avenue/State Street intersection

The recommendations (see Figure 70) seek to enhance the overall public realm adjacent to the hospital, particularly the pedestrian environment, through improved safety and streetscape enhancements. Conflicts between hospital destined pedestrians and State Street motorists are reduced with conversion of a small segment of Ormond Avenue to one-way northbound only travel. A new road, privately constructed on hospital owned parcels north of State Street is recommended between Elm Avenue and Jefferson Avenue. This roadway provides an alternate access and circulation route for hospital employees and visitors using the adjacent parking lots. With this connector road in place, traffic, especially parking lot traffic is diverted away from the main hospital entrance, beyond the high pedestrian activity area in front of the hospital, thus significantly improving pedestrian safety.

In addition to the proposed new road, a pedestrian connection is recommended to provide a link between the parking lots north of State Street and the realigned intersection of Jefferson Avenue.

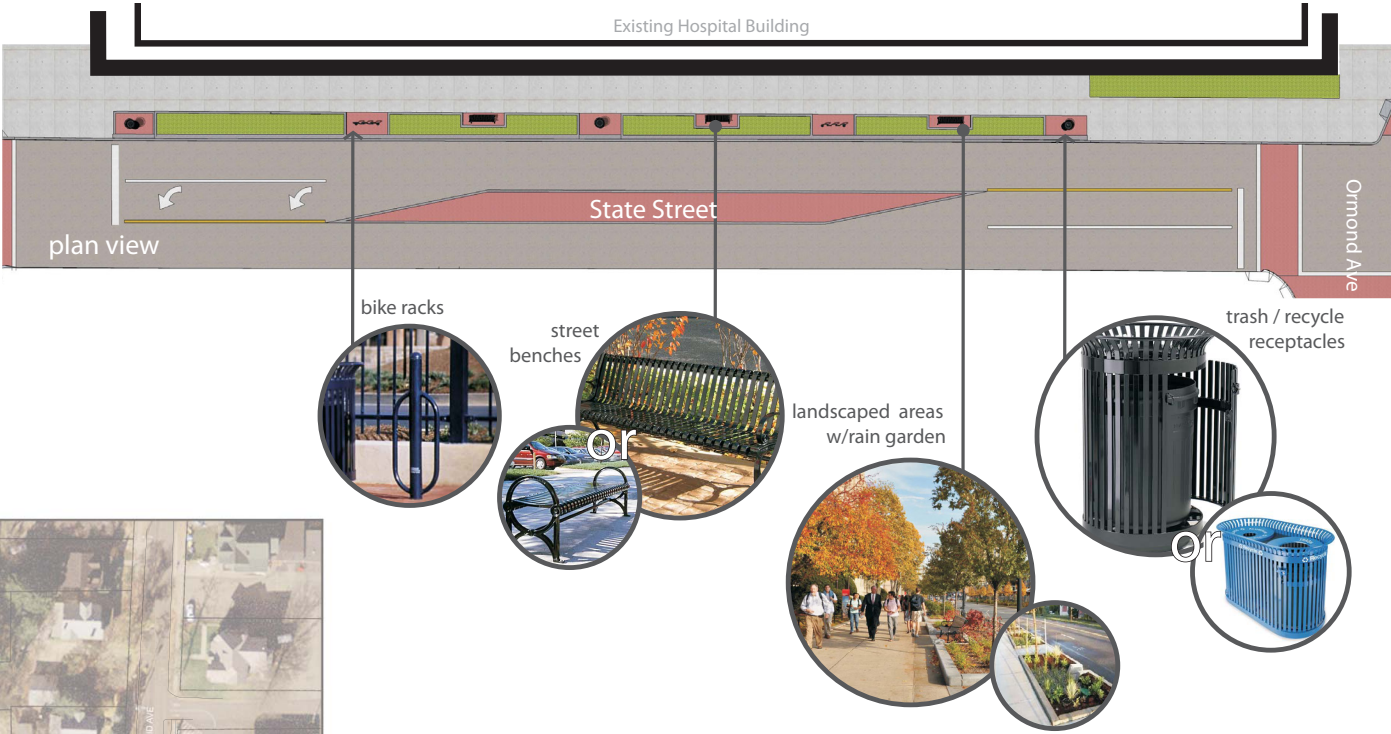
IV ALTERNATIVES & RECOMMENDATIONS

Off-site improvements are encouraged to compliment the recommended design to facilitate safer and more efficient movement throughout the area for all modes of travel.

Under both the near and longer term plans, pedestrians are encouraged to use enhanced crosswalks at intersections. Any physical features proposed that direct pedestrians to and from the hospital would be done in collaboration with hospital approval.



PROPOSED RENDERING
VIEW FACING WEST



Hospital Zone Improvements

Note: Coordinate new road realignment and pedestrian connections with future hospital development plans.

Figure 70: Hospital Zone Recommendations

