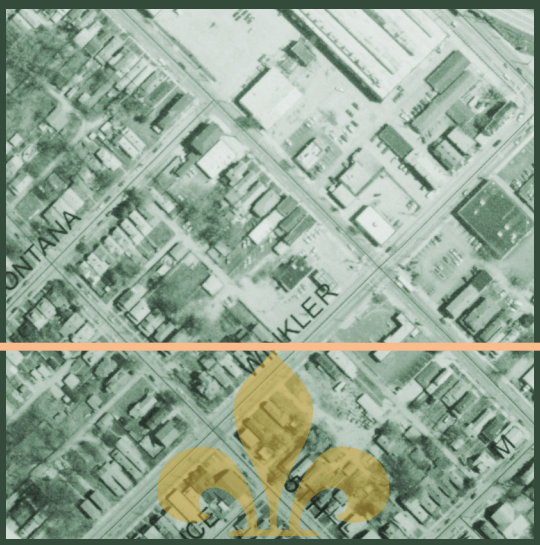
FIVE

Design Recommendations

"The great advantage which a town finds in a park, lies in the addition to the health, strength, and morality which comes from it to its people."

- Frederick Law Olmsted



FIVE Chapter Five: Route Recommendations

As described in Chapter Four, each of the Olmsted Parkways is a unique linear landscape with distinctive qualities that makes it special to move through and experience. These qualities provide both opportunities and challenges for the development of design recommendations for the parkways. The design team spent several months analyzing the existing conditions information and refining the design alternatives. The recommendations set forth in this chapter provide a conceptual definition of future conditions rather then a detailed design. They are meant to guide the future development of shared-use paths and pedestrian connections throughout the Olmsted Parkways.

One major design challenge was how to integrate contemporary users and materials into the historical design fabric created by Olmsted. It was necessary to strike a balance between the modern and contemporary desires of the community and the historic precedent and design criteria set forth decades ago. Adding to the challenge was the need to create safe traffic patterns for both vehicles and pedestrians. The Olmsted Parkways, over time, have evolved to be main thoroughfares through the Louisville Metro, carrying heavy loads of traffic each day. Introducing additional pedestrian and bicycle traffic into these areas requires sensitivity to the functional elements of safe passage while maintaining or creating a positive experience for pedestrians, bicyclists, and vehicular traffic.

One major challenge was how to integrate contemporary uses and materials into the historical design fabric created by the Olmsted firm.

Bicycle and Pedestrian Design Criteria

Type 'A' Cyclists:
These cyclists are those that are comfortable navigating primary roadway systems. They understand vehicular signage systems and should be separated from pedestrians. For the purpose of this project, all Type "A' cyclists should be encouraged to use the roadway via a designated bike lane or through the use of a shared lane system.

Type 'B' Cyclists:
These cyclists are often recreational in nature and are not always comfortable navigating primary roadway systems. They understand vehicular signage systems and could be separated from pedestrians. For the purpose of this project all Type 'B' cyclists are accommodated within the roadway via a designated bike lane, shared lane systems, or on shared-use paths.

Type 'C' Cyclists:
These cyclists are almost always recreational in nature and include children in the classification. These cyclists are not comfortable biking at speeds associated with roadway traffic and should be accommodated via off road paths. For the purpose of this project, all Type 'C' cyclists are accommodated on the shared-use path.

Shared-use path:
For the purposes of this project, a shared-use path is defined as any paved route with a minimum dimension of eight feet and designated for both bicyclists and pedestrians. A shared-use path should be included along all parkway routes to provide effective and safe circulation for pedestrians and Type 'C' cyclists.

Pedestrian paths:
For the purposes of this project, a pedestrian path is defined as any paved route with a dimension of five to eight feet. A pedestrian path route should be included along all parkway routes to provide a continuous path for pedestrians.

Once the design criteria were established, the team applied them to each parkway and roadway system. The overall design intent was expressed as a simple statement for each corridor. A closer scale was used to identify solutions to achieve the overall design intent. Since the character and components of each parkway varies by location, the character zones described in Chapter 4 were used to examine each piece as a separate entity while also weaving each piece into a unique fabric that encompasses the entire parkway system.

General Roadway Recommendations

Since the daily traffic volumes along Southwestern and Algonquin Parkways are the lowest among the Parkways in this study, Southwestern and Algonquin Parkways are excellent opportunities to road diet the traffic lanes to create one traffic lane in each direction with a central median/ turning lane and two five-foot bike lanes for the "A" and "B" users. This will also help to reduce the speed of vehicular traffic particularly in areas where the Parkways open up – such as the stretch along Algonquin Parkway at the railroad overpass between 13th Street and 16th Street.

The major intersections along Algonquin Parkway currently pose several constraints to the development of a shared-use path system. The intersections at the I-264 interchange, Wilson Avenue, Dixie Highway and South 7th Street all have excessive turn lanes, large turning radii and poor pedestrian crossings. There is a great opportunity to improve these intersections by reducing the number of traffic lanes and their widths. The pedestrian crossing can be improved

What is a road diet?

A road diet is basically the reconfiguration of an existing roadway to improve its efficiency, function and safety. A common example would be to reconfigure a four-lane roadway (two travel lanes in each direction) into a three-lane roadway (one travel lane in each direction with a two-way turn lane in the middle) with bike lanes on the outside. This aids traffic flow and reduces accidents; through traffic can now flow freely without being stopped by left-turning vehicles.

Figure 5-1: *Typical 4-lane roadway.*

by reducing curb radii and/ or providing curb bump-outs where possible. This will help slow turning traffic and reduce the width of the intersection that the pedestrian or bicyclist might traverse. Timed pedestrian signals with count-down clocks and clearer definition of the pedestrian crossings can help to ensure safety for all users.

Another major constraint facing the shared-use path is the fact that between Chickasaw Park and I-264 there are five at-grade railroad crossings, an example of which is shown in Figure 5-X. If any of these railroads are inactive then there is an opportunity to remove them. Railroad signalization and crossing gates should be installed for all remaining active rail lines.

There are a large number of trucks on some sections of the Parkways due to the industrial corridors on both sides of Algonquin. This truck traffic is a major constraint to pedestrian and bicyclist safety. Opportunities to re-route this traffic to streets off of the Parkway should be explored.

The daily traffic volume along Southern Parkway is low enough that there is an excellent opportunity to road diet the traffic lanes to create one traffic lane in each direction with a central median/ turning lane and two five-foot bike lanes for the Type "A" and "B" bicyclists. This will also help to reduce the speed of vehicular traffic, which now often exceeds the posted speed limit.

There is an opportunity to use the existing service drives for the shared-use path location. Currently they are being used for recreational purposes – especially the west side of the Parkway where service drives are nearly continuous from Wayside Park to Iroquois Park. There is also an opportunity to use or incorporate the existing bicycle and pedestrian paths on the west side of the Parkway from Florence Avenue to Ashland Avenue.

The major intersections along Southern Parkway pose several constraints to the development of a shared-use path system. There is an opportunity to improve the intersections at the I-264 Interchange and at Taylor Boulevard by reducing the width and number of traffic lanes by implementing a road diet as mentioned previously. Pedestrian crossings can be improved at these two intersections (as well as the Oakdale Avenue and Woodlawn Avenue intersections) by reducing curb radii and or providing curb bump-outs where possible. This will help to slow turning traffic and help reduce the width of the intersections that the pedestrian or bicyclist might traverse. Timed pedestrian signals with countdown clocks and clearer definition of the pedestrian crossings can help to ensure safety for all users. There are several opportunities to add pedestrian crossings for those who would like to travel between the two sides of the parkway.

Eastern Parkway is also known as Alternate US 60. There are heavy traffic volumes during rush hours along the parkway between Willow Avenue and Third Street. There are also numerous turning movements throughout the length of the parkway. Interior lanes are often backed up as left turning vehicles wait to make their turns. The entire length of Eastern Parkway would be a candidate for a road diet, with the exception of the section between Baxter and Barret Avenues where the median precludes that treatment. A road diet would encourage more bicycle traffic and slow parkway traffic, thus enhancing the parkway experience.

The median from Baxter to Barret Avenues presents a unique set of problems. There are no dedicated pedestrian signals at Baxter Avenue to facilitate passage to the median, and the signals at the Barret Avenue end are barely adequate. If the median continues to be the primary route available for non-motorized travel, installing "all stop" pedestrian crossings at both ends of the median would make the whole transition safer and easier to navigate for users. In addition, extending the parkway median out to include the crosswalks would simplify the pedestrian crossing by breaking it up into two segments and would provide a comfortable refuge while waiting for traffic in the other direction to clear.

Features of a road diet?

- Overall road width does not change
- Achieves positive effects without reducing vehicle service levels
- Promotes cycling with the addition of bicycle lanes
- Reduces number of accidents
- Lowers vehicular speeds
- Improves pedestrian safety

Figure 5-2: *Typical 4-lane roadway reconfigured with a "road diet".*

The intersections at Poplar Level Road and Crittenden Drive have been expanded to five lanes with free flowing right turn lanes. Eliminating the free flowing right turn lanes and replanting trees in those areas would restore the parkway character, while slowing traffic and making the crossings safer for bicycles and pedestrians.

Pedestrian crossings at South Shelby and Preston Streets are also less than ideal. Pedestrian signals can be updated with countdown clocks and signal times changed to make the intersections safer.

The roadways within the Hub area vary in size, traffic capacity and pedestrian amenities. Every roadway is different in how it accommodates pedestrian improvements, but several general comments can be applied. While traffic counts would need to be analyzed for specific circumstances, several of the roadways seem to be more than generous in their lane configurations. Dedicated bicycle lanes could be added by reducing lane widths along several primary corridors in the area.

Given the existing conditions of the Hub's corridors, there is room at most locations to accommodate wider pedestrian walks and multi-use shared paths. Pedestrian crossings could be further enhanced in this area consistent with the standards of the Kentucky Transportation Cabinet.

Parkway Traffic Review

Southwestern and Algonquin Parkway

For the most part, ADTs along Southwestern and Algonquin Parkways are well within the comfort zone for introduction of a four-lane to three-lane road diet, with three ten-foot travel lanes and two five-foot bike lanes. The only exception occurs at Algonquin Parkway and 7th Street. Here, a large number of southeast bound right turns on Algonquin, particularly during the evening peak period (279 vph), would make this intersection operate at an E Level of Service (LOS). Adding a separate right turn lane on just this approach would improve the traffic operation to LOS C.

The only other recommended roadway design change along Southwestern/Algonquin would be to restore the parkway characteristics to the standard three ten-foot travel lanes and five-foot bike lanes at the I-264 crossing and reducing all turn radii to 20 feet wherever possible. Resulting in no diminution in traffic level of service, this would greatly improve pedestrian and bicycle access along the parkway by slowing turning speeds and shortening crosswalk distances.

Southern Parkway

Like Southwestern and Algonquin Parkways, ADTs along Southern Parkway are well within the operation capacity range for a road diet street. The only recommended change along Southern Parkway is to restore the parkway characteristics (with ten-foot travel lanes, five-foot bike lanes and 20-foot turning radii) at the I-264 interchange.

Eastern Parkway

Traffic volumes along Eastern Parkway are higher than on the previously described parkways. Although current ADTs are still less than 20,000 vehicles per day, there are four intersections where certain turning movements will require special turn lane accommodations if the four-lane to three-lane reconfiguration is adopted.

Common Terms:

Average Daily Traffic (ADT)- The average number of vehicles crossing a fixed point within a 24-hour period.

Vehicles Per Hour (VPH)- The number of vehicles crossing a fixed point within one hour.

Level of Service (LOS)- The level of service is measured by the traffic speed and maneuverability of a roadway. The LOS ratings range from A through F, with A being free flow traffic. A rating of LOS A through LOS C is considered acceptable.

Operating Capacity - The threshold number of vehicles the roadway can accommodate.

Eastern and Baxter Avenue: At the present time, left turns off of Eastern Parkway at Baxter Avenue are prohibited during both morning and evening peak periods (although as many as 18 illegal left turns in one direction were counted during a recent manual traffic count). If the Eastern Parkway lane configuration is changed, as noted above, a continuous left turn lane would now be available and left turn movements could be permitted at all hours. Using the countervailing right turn volumes during the complementary morning or afternoon peak periods to estimate the potential movements, there could be as many as 68 fewer through traffic movements (and/or neighborhood cut-throughs). This alone would improve the projected intersection Level of Service during the afternoon peak from LOS F to LOS E. Adding a separate eastbound right turn lane for the 195 vehicles making this turn in the evening would further improve the level of service to an acceptable LOS D.

Eastern and Poplar Level Road: At this intersection there are a number of difficult turning volumes during the evening peak, particularly 345 vph northwest bound left turns off of Poplar Level. This movement currently causes capacity problems. Reducing the lanes on Eastern Parkway will not worsen this problem significantly. Adding northeast and southwest bound right turn lanes on Eastern Parkway to handle the sizeable right turn volumes (165 vph and 88 vph respectively during the evening peak) could improve the Eastern Parkway level of service to LOS D, but the Poplar Level left turn would remain LOS F. Further studies of this complex intersection will probably be needed as the Olmsted Parkway project moves forward.

Eastern and Preston/Shelby Street: This intersection of two closely spaced parallel one-way roadways will operate much better when left turn lanes are added to Eastern Parkway, thus allowing movements that are currently prohibited. In addition, the large neighborhood cut-through traffic movements will no longer be a problem. Further studies of this complex intersection will probably be needed as the Olmsted Parkway project moves forward.

Eastern and Crittenden Drive: This complex intersection is overbuilt in many ways, with free flow right turn lanes in two quadrants and 12-foot through and turn lanes. The unusual evening peak period turning movements at this intersection will require something other than the standard road diet configuration. Specifically, left turn volumes of 452 vph eastbound and 202 vph westbound, plus right turn volumes of 139 vph and 224 vph eastbound and westbound respectively, will require double left turn lanes and separate right turn lanes. This will improve the level of service from LOS F to LOS D. In addition, eliminating the free flow right turn lanes noted above and reducing the lane widths to 10 feet will permit restoration of much of the parkway characteristics to this intersection, without adversely affecting vehicular movements.

One other concern along Eastern Parkway is the loss of parkway characteristics at the I-65 interchange and the adjacent Hahn Street connection. In both cases, the free flow ramps with large turning radii are unnecessary and inappropriate for the parkway setting, with pedestrian and bicycle movements along the parkway. These radii should be made as small as possible while still permitting the necessary truck turns. In addition, there are plans for completely revising the I-65 ramp connection configuration in this area to provide a new connection to an extended Central Avenue to the south and reorienting the University of Louisville ramps to a standard diamond interchange at Warnock Street to feed directly into the campus parking facilities. If just the campus ramp connections could be made at this time, it would greatly facilitate the restoration of Eastern Parkway.

The Hub

The parkway connection options for this portion of the roadway system are different from the Olmsted Parkway roadway design recommendations listed above. However, it should still be possible to make significant improvements to the bicycle network connections, while maintaining a desirable pedestrian environment for much of the area.

Detailed Segment Review

The following sections of this chapter detail specific design recommendations and proposals for each of the parkways and the hub. Each of these parkway corridors and the hub have been divided into "zones". For each respective zone, illustrations including prototypical plans, sections and perspectives as well as a detailed description of the recommendation are included. For the purposes of organization, the order that each segment is covered follows:

- Algonquin / Southwestern Parkway
- Southern Parkway
- Eastern Parkway
- The Hub

For each of the parkway segments and the hub, the recommendations for incorporating the shared-use pathway system were developed around these key axioms:

1. When possible, incorporate bike lanes into streets\road diets.
2. Service drives – preferred width/ where possible 16'
3. Complete accessible (ADA) pedestrian network on both sides of ALL parkways.
4. Preservation of greenspace.
    - Utilizing road diets and bike lanes on all rec.
    - Recapture/reclaim lost green space at intersections and islands
5. Connections to neighborhoods via streets and bike routes.
6. Connectivity to Northwestern Parkway and Cherokee Parkway.
7. Trees must be preserved wherever possible.
8. Identify user classification types of bicyclists
9. Re-establish Parkway character.
    - Reprioritize Parkway Character through intersections.
    - Establish Parkway Character throughout entire width of Parkway land
    - Replace lost and install new parkway trees
    - Remove/reduce "look at me" elements in the parkway landscape
    - Remove/reduce non-park uses in the parkway landscape
    - Eliminate all free vehicular-flow at intersections
    - Increase, provide additional park-like spaces along parkway landscape

The road diet concept is proposed for all of the parkways to improve the function of the roadway, reduce speed, and increase safety.

Parkway Recommendations:
Algonquin / Southwestern Parkway

Algonquin/Southwestern Parkway

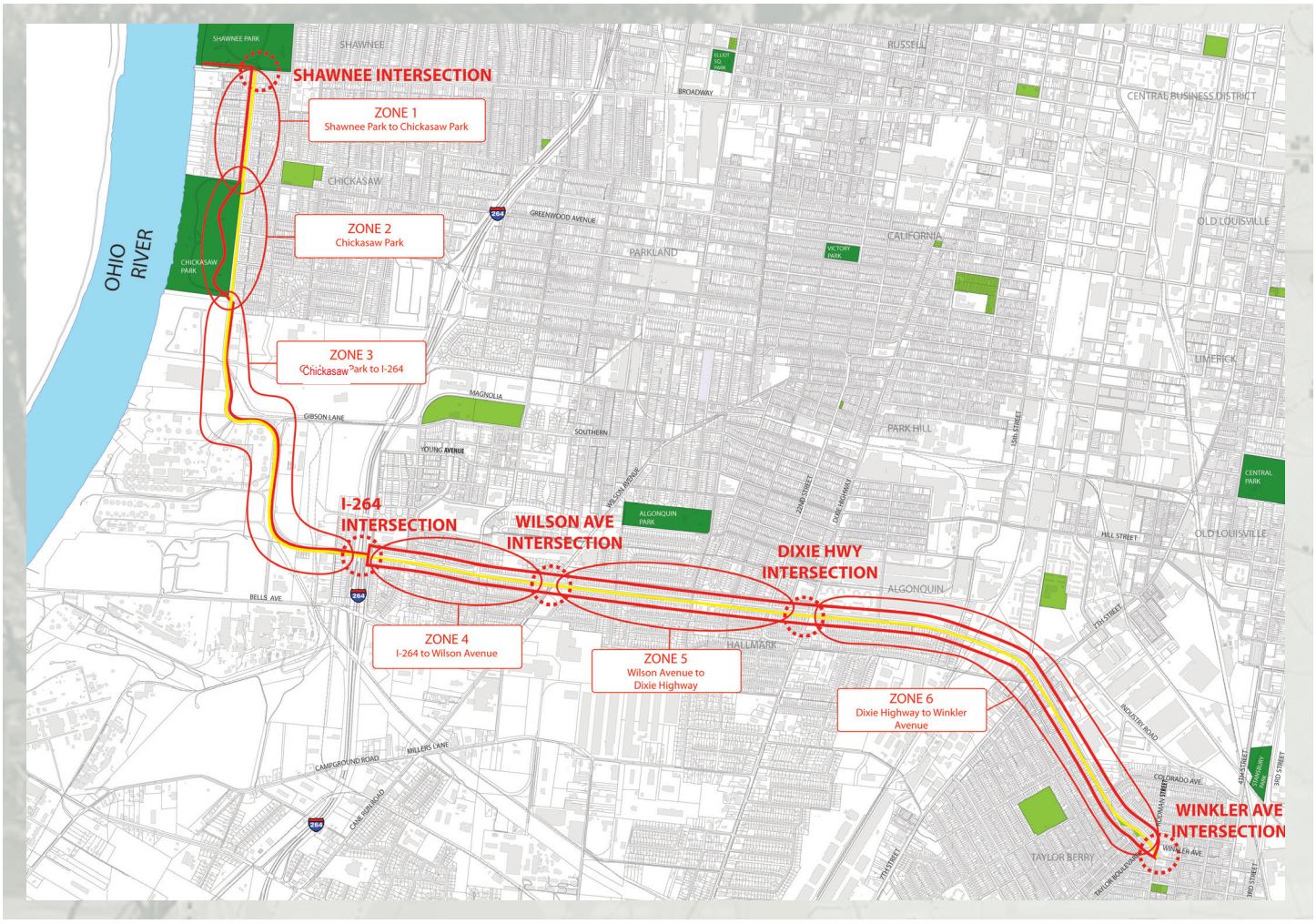


Figure 5-3: *Southwestern and Algonquin Parkway conceptual plan with character zones.*

The overall design intent is to incorporate a shared-use path on the west side of Southwestern Parkway extending from Shawnee Park to Chickasaw Park. In addition a shared-use path should be added to the east or north side of Southwestern Parkway with improved mid-block crossings. Along Algonquin Parkway the shared-use path will be incorporated along both sides of the parkway utilizing new service drives and new ten-foot shared-use connections. The entire length of Southwestern/ Algonquin Parkway should undergo a roadway reconfiguration. The recommendation for the entire parkway is to re-stripe the roadway to accommodate two 10.5-foot traffic lanes and one 11-foot center turning lane. A five-foot bike lane should be provided on both sides of the roadway for Type 'A' and 'B' cyclists.

Provisions for the child cyclist and all pedestrians would be made along both sides of Algonquin Parkway through the use of both shared-use paths and new service drives. These facilities, which would vary based on the changing character of the parkway, are described in greater detail below. New ten-foot shared-use paths would connect the new service drives in order to provide a continuous pathway system.

Zone 1: Shawnee Park to Chickasaw Park:

For this segment of the parkway the existing five-foot sidewalk on the east side of Southwestern Parkway should remain intact. The existing five foot sidewalk on the west side should be replaced with a ten-foot shared-use path between the double rows of trees. Trees should be planted to fill in the gaps in the tree planting sequence.

Efforts should be made to match the existing planting scheme, whenever possible, to create a cohesive plant palette in the area. Throughout this section of the parkway there are numerous examples of private encroachments on the parkland. These encroachments include parking, driveways, plantings, fences, or walls built into the Parkway. These items should be removed as part of the construction in this area, and efforts should be made to restrict private citizens from constructing items within the limits of the parkland in the future.

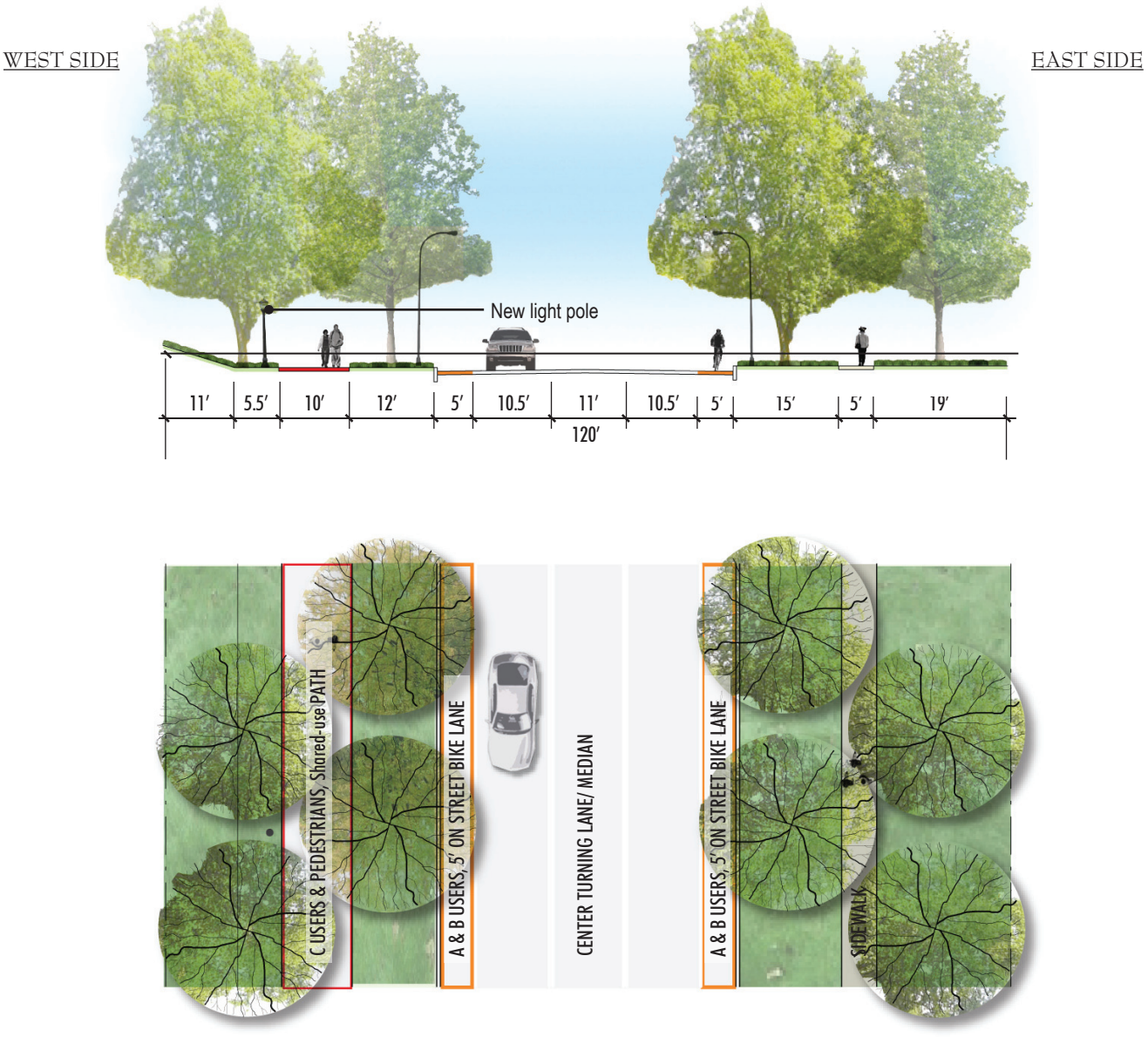


Figure 5-4: Southwestern Parkway: Zone 1 Prototypical Section & Plan - Shawnee Park to Chickasaw Park

Figure 4-5: Southwestern Parkway: Zone 1 Prototypical Sketch

Zone 2: Chickasaw Park:

When the shared-use path reaches Chickasaw Park, it should be brought into the park. A path currently existing in the park should be upgraded to meet the ten-foot minimum dimension standard. Routing the pathway through the park will allow more interaction between the parkway and park users. The existing five-foot sidewalk on the east side of Southwestern Parkway should remain intact. The shared-use path would exit Chickasaw Park on the southern edge of the park, and cross Southwestern Parkway south of the intersection with Dumesnil Street. This crossing needs to be designed with a variety of users in mind, including pedestrian, bicycle, and vehicular. The crossing should reflect Olmsted's design principles and vision for the parkways.

There are several gaps in the tree sequence where missing trees have not been replaced. In many locations the second row of trees closest to the residences is entirely missing. Gaps in the tree sequence should be replaced with species used in the original master plan.

SOUTHWESTERN PARKWAY:
Shared-use path on west side of parkway from Shawnee to Chickasaw Parks. Shared-use path on east or north side of parkway with improved mid-block crossings.

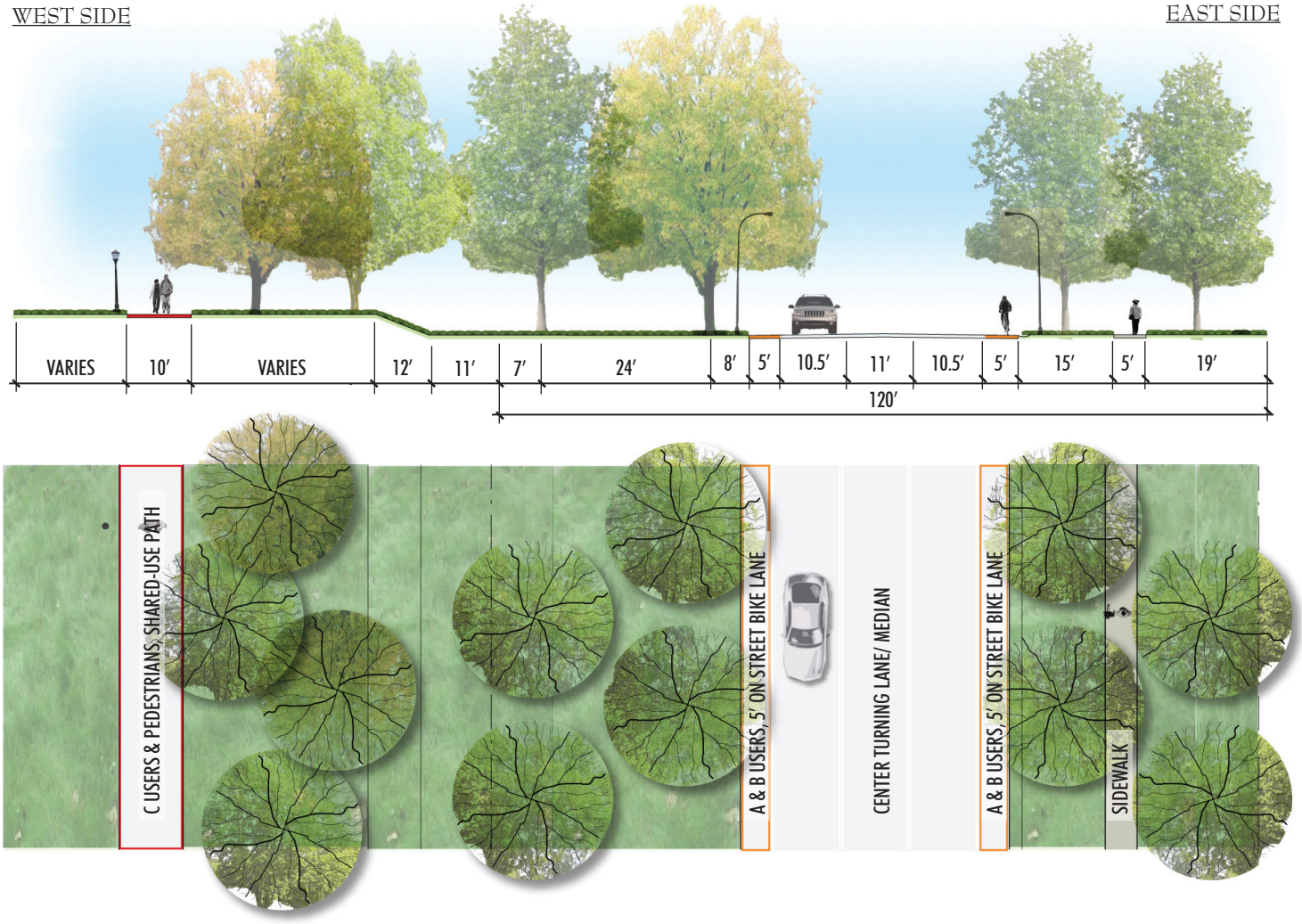


Figure 5-6: Southwestern Parkway: Zone 2 Prototypical Section & Plan - Chickasaw Park

Zone 3: Chickasaw Park to Interstate 264:

The character of the parkway is lost from the southern edge of Chickasaw Park to Interstate 264. Olmsted's design principles and vision should be reincorporated into the parkway. A ten-foot shared-use path should be constructed on the east side of the parkway behind the first row of trees. Along the west side of the parkway, a five-foot pedestrian sidewalk should be constructed. Drainage and access issues should be corrected before installing the sidewalk on the west side.

There are several gaps in the tree sequence where missing trees have not been replaced. The second row of trees along the east side of the parkway is almost completely missing. The gaps in the tree sequence should be filled in with appropriate plantings, and the second row of trees should be replanted along the east side of the parkway. Adjacent industrial land uses should be buffered and screened from the parkway in a way that is consistent with the original Olmsted plan.

To further the connectivity throughout this parkway and Louisville Metro as a whole, a second pedestrian crossing should be established just west of I-264 in order to connect the Ohio River Levee Trail section of the Louisville Loop to the Parkway and to other regional trail systems.

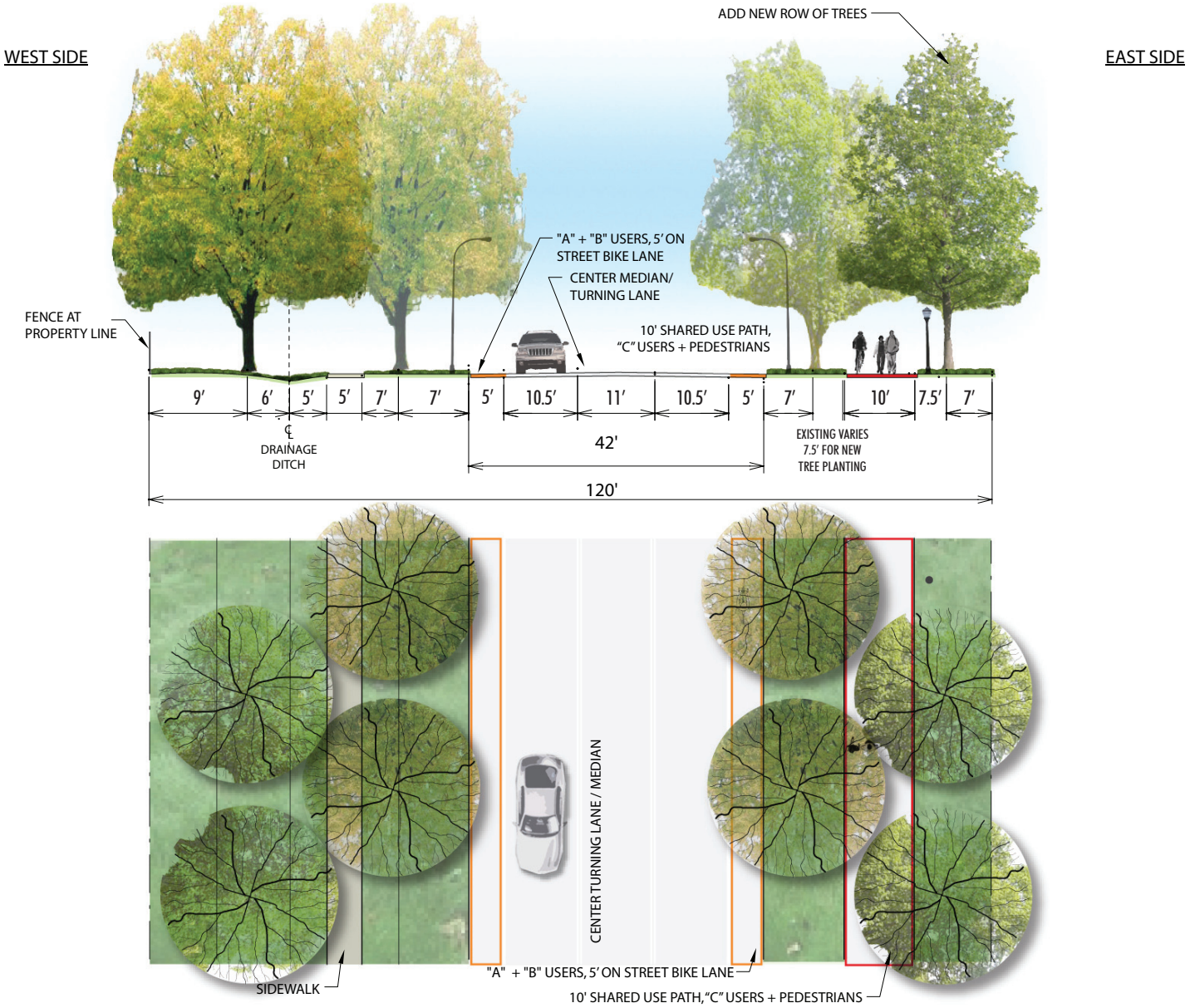


Figure 5-7: Southwestern Parkway: Zone 3 Prototypical Section & Plan

Figure 5-8: Southwestern Parkway: Zone 3 Prototypical Sketch

Zone 4-6: Interstate 264 to Winkler Avenue:

Algonquin Parkway, from Interstate 264 to Winkler Avenue, should have a similar cross section to that of Zone 3, with one distinct difference. Service drives should be established on both the north and south sides of the Parkway to provide the continuous shared-use connections for parkway users. These service drives should be 18 feet wide and should accommodate neighborhood traffic in addition to pedestrian and bicycle traffic. The service drives should be designed as one-way access roads for the local homeowners. Creating these service drives will eliminate the multiple driveway cuts along the parkway and create a continuous green ribbon on either side of the roadway. The proposed service drives are not meant to become parallel roadways for through traffic; rather, they will serve those properties directly adjacent to the parkway in one block increments. Service drives should turn and intersect with the parkway so as to not interfere with intersecting streets and existing intersection design. Incorporating these service drives along the entirety of Algonquin Parkway would delimit a hard edge that would clearly define public and private property. This clear delineation should reduce the number of private encroachments along the parkway. While parking should not be encouraged on the service drives, the 18-foot width would accommodate short-term parking by residents and guests. The existing five-foot sidewalks on both sides of the parkway should remain but not be maintained. These pedestrian sidewalks, over time, should be returned to green space.

Since the shared-use path is incorporated into the proposed service drives, new ten-foot shared-use paths should be constructed between service drives to provide continuous routes along the parkway. The design of these connections is discussed later in this chapter.

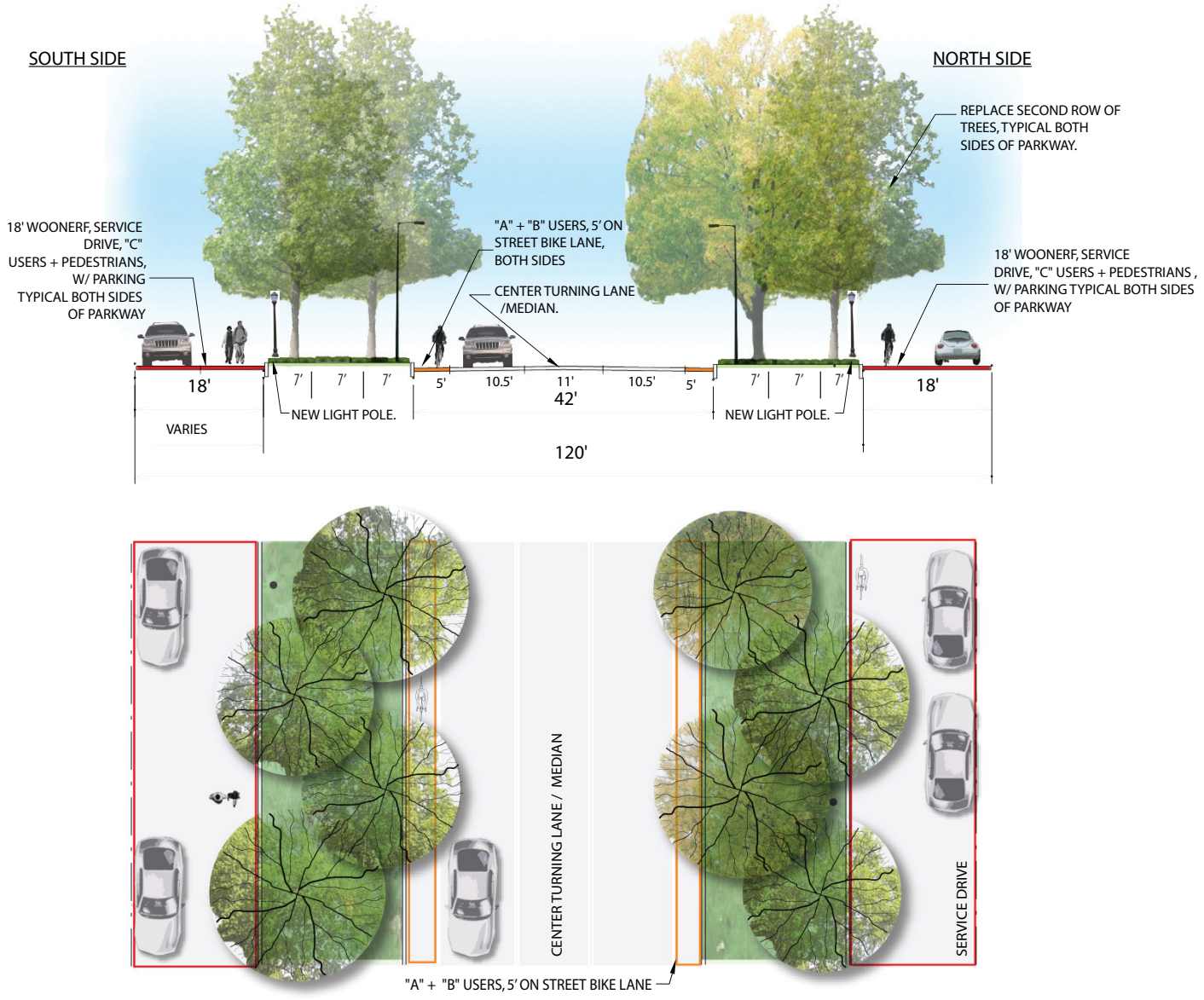


Figure 5-9: Southwestern Parkway: Zone 4-6 Prototypical Section & Plan

Figure 5-10: Southwestern Parkway: Zone 4-6 Prototypical Sketch

There are several gaps in the tree sequence as missing trees have not been replaced. Gaps in the tree sequence should be replaced with species used in the original master plan.

At the major intersections along Algonquin Parkway – I-264 Interchange, Wilson Avenue, Dixie Highway and South 7th Street – the parkway character becomes secondary to that of the crossing roadways. By reducing turning movements and reconfiguring the intersections, it is possible to return some of the area to planted verge. These transitional plantings would keep with the Olmstedian tradition and provide safe environments for both vehicular and pedestrian traffic. These intersection designs are discussed in detail later in this chapter.

Unique Recommendation Elements

There are several unique characteristics that further strengthen the design recommendations made for this segment of the project. By incorporating both the shared-use path and the pedestrian sidewalks, connections are made not only along the parkways but also to the adjacent neighborhoods. For example, additional connections to existing travel routes may be made at Virginia Street and Dumesnil Street. These are two residential streets approximately 36 feet in width that would be amenable to bicycle traffic due to low traffic volumes and their neighborhood character. In addition, several other designated bike routes also connect to the Parkway which will further unify the pedestrian connections throughout the city.

Connections are also important when looking at previously established trail routes. While not included in Olmsted's original vision, it is important to note that Northwestern Parkway should be used as an alternative connection to Louisville's downtown for bicycles and pedestrians. Currently several segments of the Riverwalk system are located in the floodplain and therefore, can periodically flood. Northwestern Parkway would provide a viable alternative route for a variety of users. Northwestern Parkway should be analyzed to determine the feasibility of including a shared-use path connection.

A few local schools are also within a short distance of the parkway's shared-use path. Connections using bike routes and sidewalks should be made to these destinations to provide a safe route to school and to encourage walking and biking. The relationship between the parkway and the existing neighborhoods would be strengthened by providing safe routes for children, parents and staff.

Southwestern Parkway is unique in that it has two Olmsted parks in close proximity along the parkway alignment, Shawnee Park and Chickasaw Park. Bringing the pathway into Chickasaw Park would encourage the use of this resource and expose new Parkway users to the influence Olmsted had in Louisville.

A final unique opportunity along this Parkway is the ability to easily establish Olmstedian character through the shared-use path and additional trees in the industrial section. There are several small parcels of land along Algonquin Parkway that could be acquired and transformed into trail nodes or pocket parks. These small triangular properties, many of which are located near the intersection of Algonquin Parkway and Winkler Avenue, should be used to make crucial connections to the proposed shared-use path network and the adjacent neighborhoods.

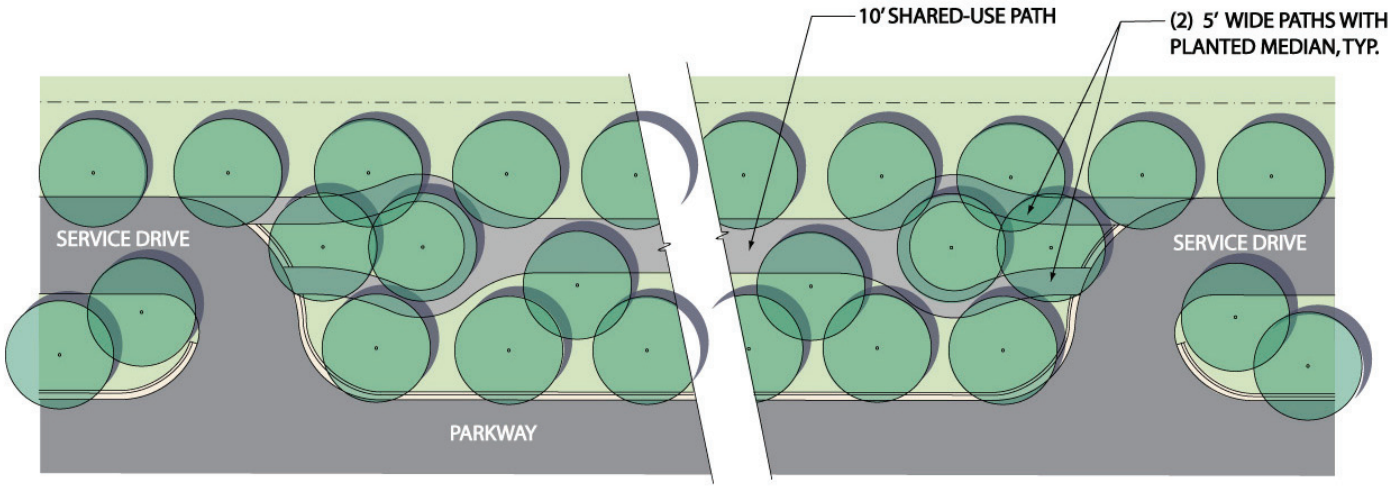
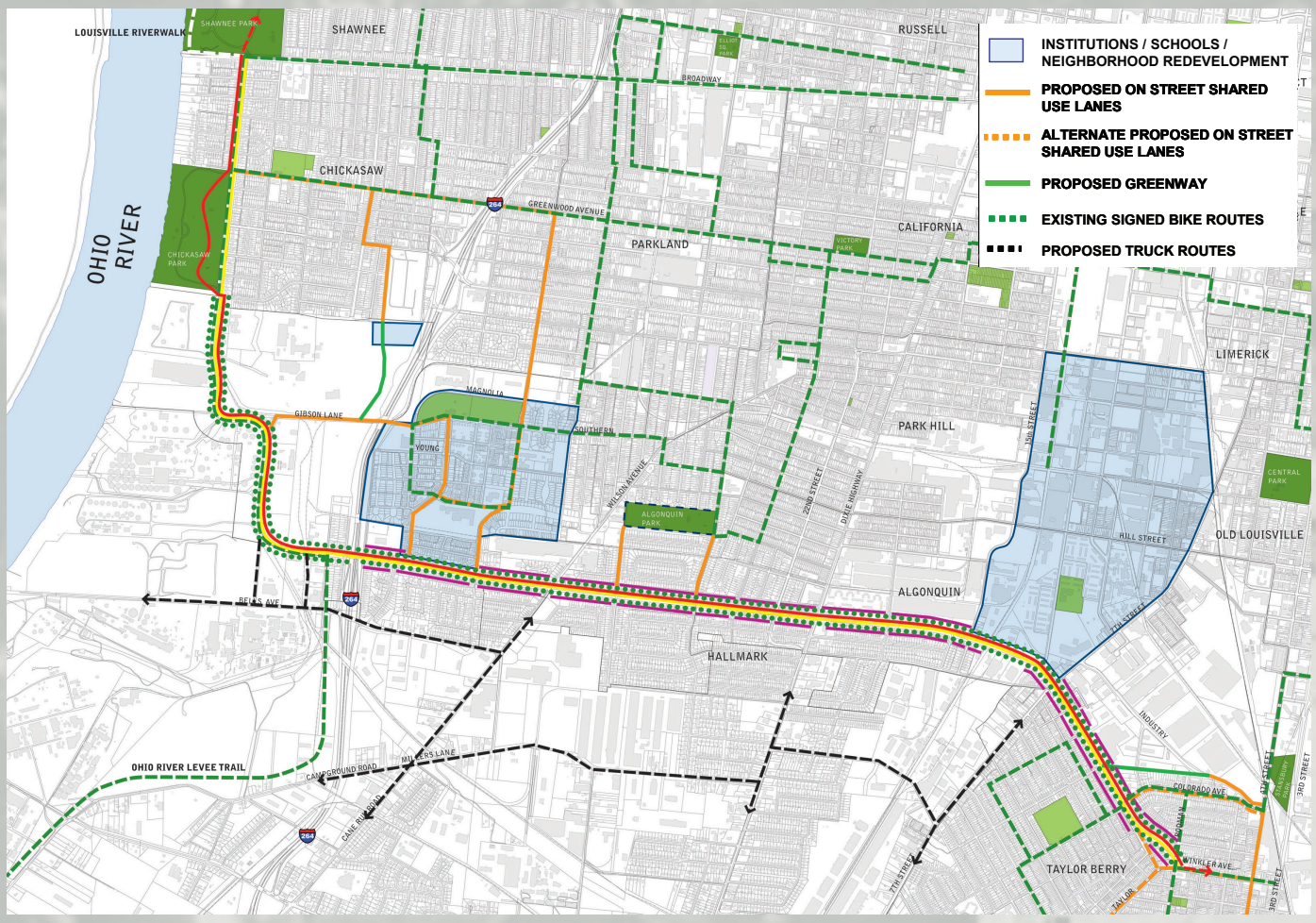


Figure 5-11: Southwestern Parkway: Zone 4-6 Plan of service drive and shared-use pathway



Algonquin / Southwestern Parkway

Figure 5-12: Algonquin / Southwestern Parkway Connections

Figure 5-12: *Connection opportunities along Algonquin / Southwestern Parkway.*

Southwestern Parkway provides a critical link in the Louisville Loop, connecting the Ohio River Levee Trail to the Riverwalk.

Parkway Recommendations:
Southern Parkway

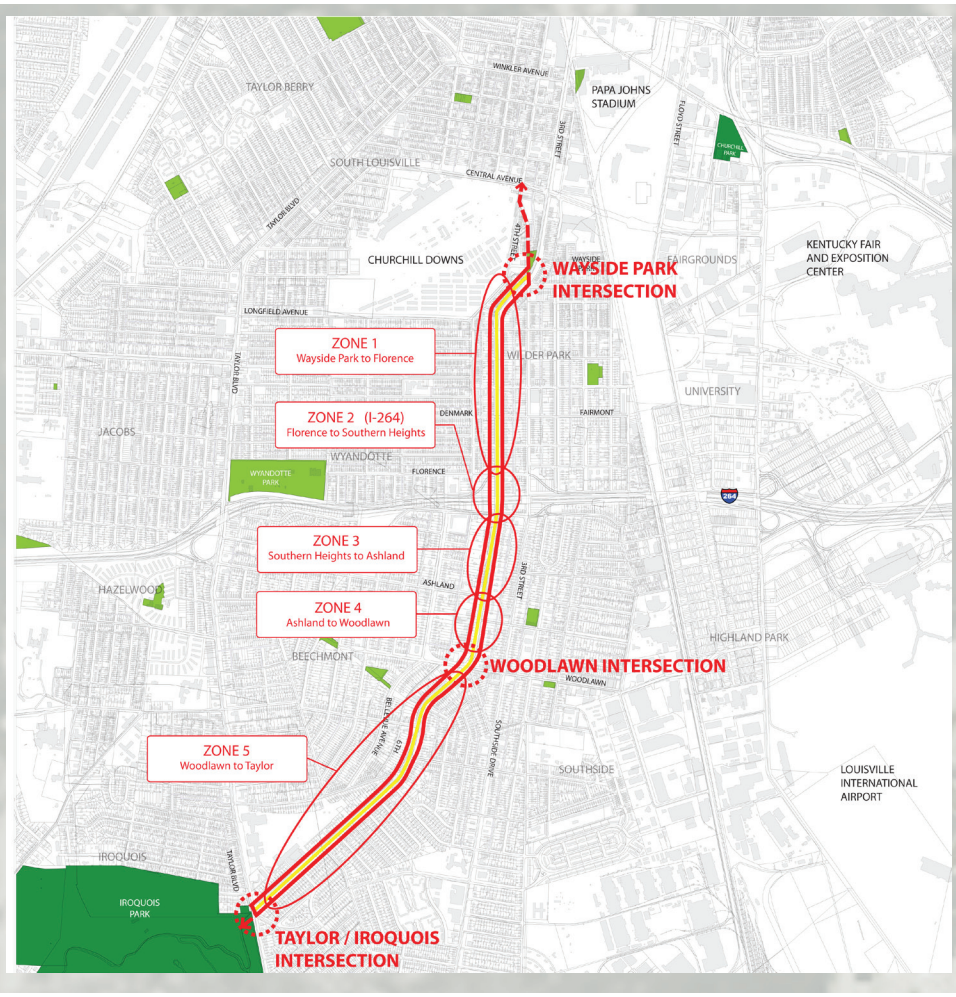


Figure 5-13: *Southern Parkway conceptual plan with character zones.*

The overall design intent is to incorporate a shared-use path on both sides of the parkway while utilizing existing service drives and new ten-foot shared-use path connections between service drives.

In addition, the entire length of Southern Parkway would undergo a roadway reconfiguration. The recommendation for the parkway is to re-stripe the roadway to accommodate two, ten-foot traffic lanes, and one ten-foot center turning lane. In addition a five-foot bike lane should be accommodated on both sides of the roadway for Type "A" and "B" cyclists.

Provisions for "A" and "B" cyclists on Southern Parkway should be met through a five-foot dedicated bicycle lane, both north and south bound. These lanes should be provided by re-striping the existing 40-foot pavement of Southern Parkway from four, ten-foot lanes (two travel lanes in each direction) to three ten-foot lanes (one travel lane in each direction with a center dual left turn lane).

Provisions for the child cyclist and all pedestrians should be made along both sides of Southern Parkway through the use of existing service drives connected by ten-foot wide shared-use path. All service drives that currently extend through a cross street should be rerouted so that access to service drives only occurs from Southern Parkway. This would reduce vehicular speeds on the service drives, allow for safer bicycle and pedestrian crossings at intersections, and create discrete service drive sections that encourage a greater sense of "ownership" for residents immediately adjacent to each section. New ten-foot shared-use paths would provide bicycle and pedestrian connections between each service drive section.

A majority of homes along the parkway have front service drives that vary in width up to 24 feet. Some are constructed with curbs and most allow parking on one or both sides. Service drive widths should be reduced to 16 feet and curbing should be eliminated except where required to control drainage. Parking on the service drives should be reduced or limited to that which is currently permitted.

Sidewalks are found sporadically along the parkway. Some sidewalks connect front doors to the service drive or to individual driveways. Other sidewalks run parallel to the service drive along the back of the parkway boundary, connecting a small number of lots. Since pedestrian traffic is to be served by a system of service drives and shared-use paths, it is recommended that future sidewalk construction be limited to connections from individual buildings to service drives or driveways. Connections between buildings should be accommodated via the shared-use path or service drive.

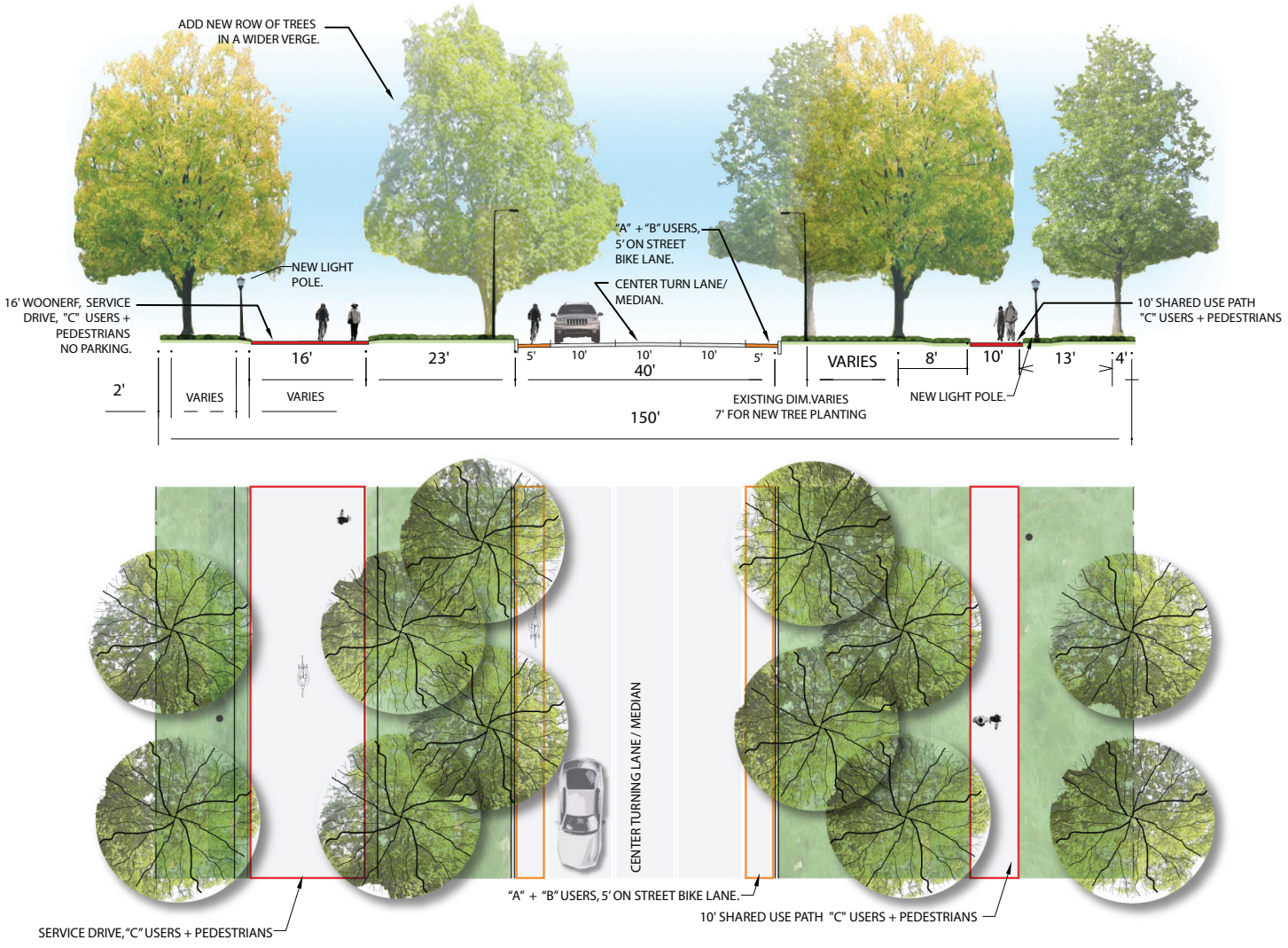


Figure 5-14: Southern Parkway: Zone 1, 4 & 5 Prototypical Section & Plan

Figure 5-15: Southern Parkway: Zone 1, 4 & 5 Prototypical Sketch

Southern Parkway was intended to be a graceful tree-lined boulevard that extended the park experience through three rows of trees along both sides of the parkway. All opportunities to restore these three rows by introducing new trees or filling gaps in the existing tree rows should be pursued.

Zone 1: Wayside Park to Florence:

The existing service drive along the west side of the parkway should be modified to accommodate the shared-use path, allowing the remaining eight feet of existing pavement to be returned to the planted verge that separates the service drive from the parkway. By adding this additional eight feet to the verge, the originally planned second of row of trees can be reintroduced in this area. Along the east side of the parkway a ten-foot shared-use path should be constructed between the second and third row of trees. When there are opportunities for rear alley access, driveways or parking lots that connect directly to the parkway should eventually be removed.

Bicycle and pedestrian improvements are recommended along Florence Avenue to connect Wyandotte Park to Southern Parkway and along Fairmont Avenue to Semple Elementary and Huston Quin Park.

Zone 2: Florence (I-264) to Southern Heights:

The existing service drives along the west and east side of the roadway should be modified to accommodate the shared-use path. Along the west side, the existing 24-foot paved drive will be reduced to 16 feet and the remaining eight feet of pavement should be returned to the planted verge, just as in Zone 1. This will allow the reintroduction of the originally designed second row of trees.

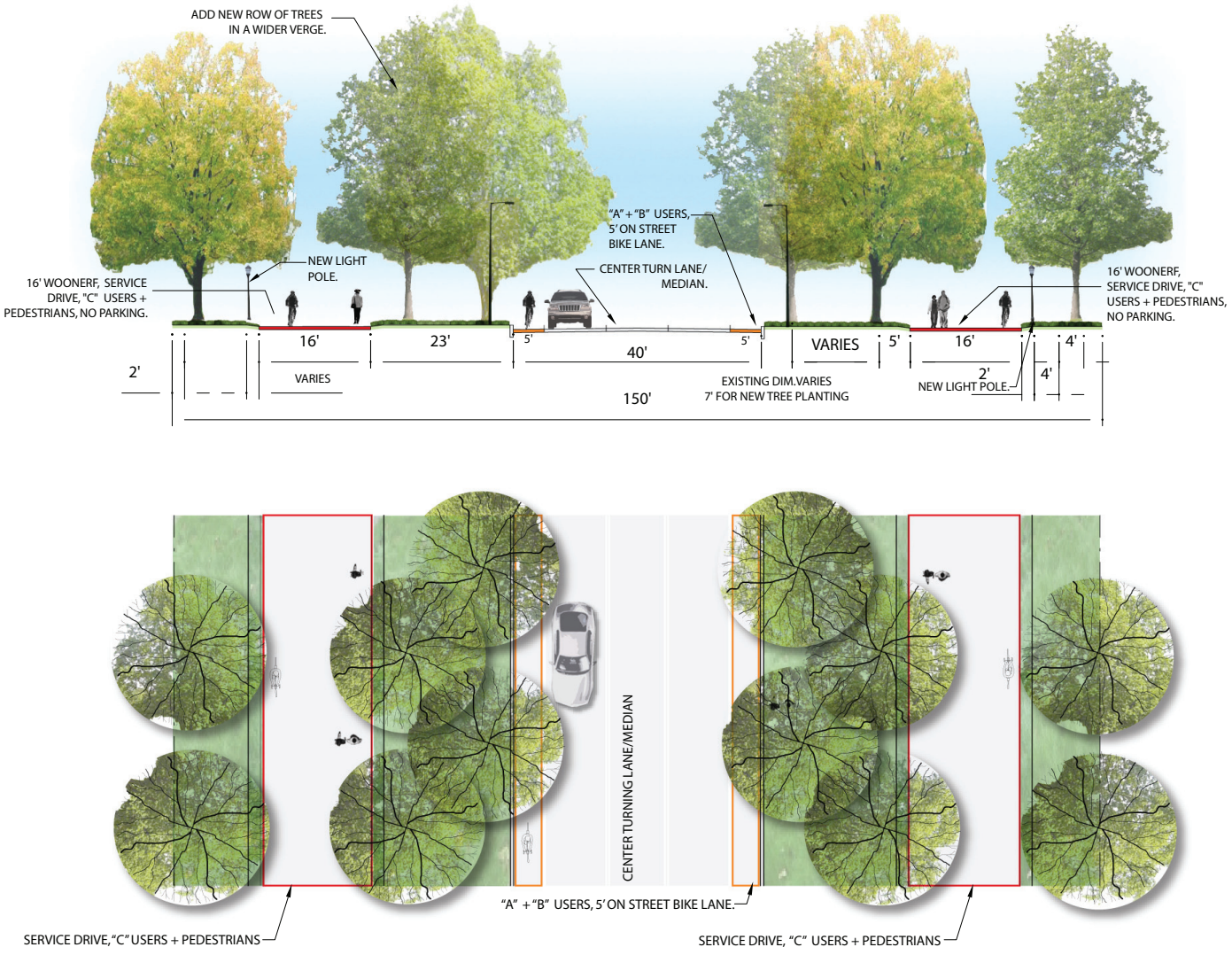


Figure 5--16: Southern Parkway: Zone 1, 4 & 5 Prototypical Section & Plan

Figure 5--17: Southern Parkway: Zone 1, 4 & 5 Prototypical Sketch

Along the east side, the existing 22-foot service drive should be reduced to 16 feet, allowing the remaining six feet of pavement to be returned to the planted verge. The east side of the parkway already contains the intended three tree rows and reintroduction is not required. However, where gaps exist in the tree canopy, efforts should be made to replant the area with appropriate tree species.

The character of this section of the Parkway is established by the Interstate 264 interchange. Here, more than any other location on Southern Parkway, the defining characteristics of the parkway have been diminished. This section is characterized by the introduction of an unusual trail system on the west side of the parkway. The system consists of dual trails separating cyclists from pedestrians. The recommendation for this system is to combine the dual trails along the west side of the parkway into a single, ten-foot shared-use path. This will clarify the trail system for the user, and allow for an increase in the green space along the parkway. It will also provide an opportunity to introduce the second row of trees through this section. The existing sidewalk on the east side should be widened into a ten-foot shared-use path. Improved lighting and educational signage about the parkway should be provided immediately beneath the I-264 overpass.

Given the central location of this space, a TARC transfer station is recommended at this location. This would consist of a bus shelter located on each side of the parkway through the intersections of Florence and Southern Heights, respectively. Each location would also include benches, a bicycle rack, and a trash receptacle.

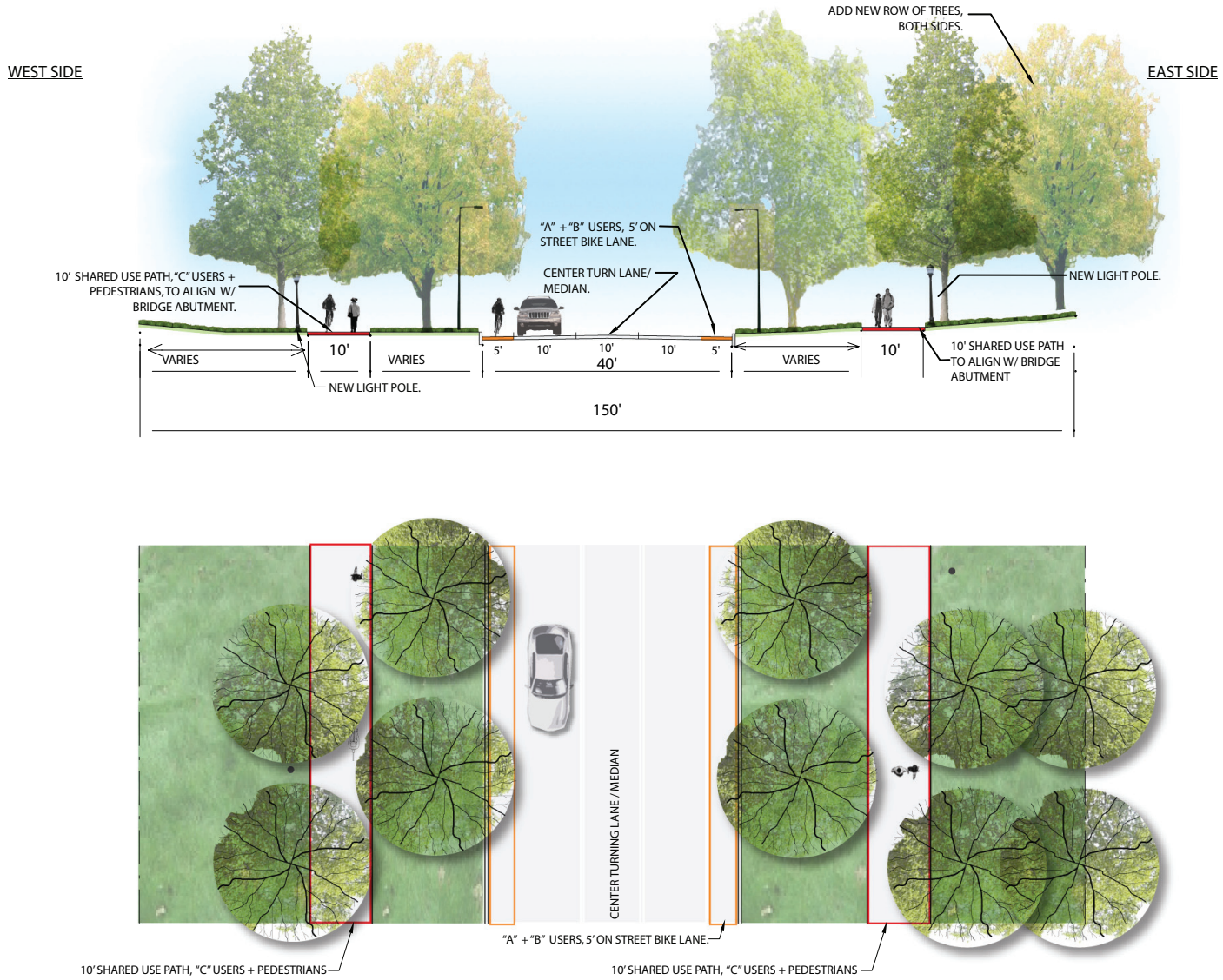


Figure 5-18: Southern Parkway: Zone 2 Prototypical Section & Plan

Figure 5-19: Southern Parkway: Zone 2 Prototypical Sketch

Zone 3: Southern Heights to Ashland:

The dual trail system described in the previous section is also found along the west side of the parkway through this section. Where a service drive exists, a single trail is located in the verge. The recommendation for this system is to combine the dual trails along the west side of the parkway into a single, ten-foot shared-use path and ultimately eliminate the single trail where there is an existing service drive. Along the east side of the parkway it is recommended that a ten-foot shared-use path be constructed between the second and third row of trees.

Bicycle and pedestrian improvements along West Ashland Avenue are recommended to form a stronger connection from Southern Parkway to OlmstedNorth Middle School.

Zone 4: Ashland to Woodlawn:

This section of Southern Parkway has a slightly different character because the service drive is more intermittent, particularly on the east side of the Parkway. The existing curb cut onto Southern Parkway from the parking lot immediately north of Wellington Avenue should be eliminated. The lot currently has alley access from the east and elimination of this unnecessary curb cut would help to restore the visual continuity of the "green ribbon" along the parkway.

The majority of the existing cross section on this segment of the parkway should remain intact. The 16-foot service drive along both sides will accommodate the shared-use path. The only modification in this section should be the removal of the eight-foot pedestrian walk along the west side of the parkway. Because the existing

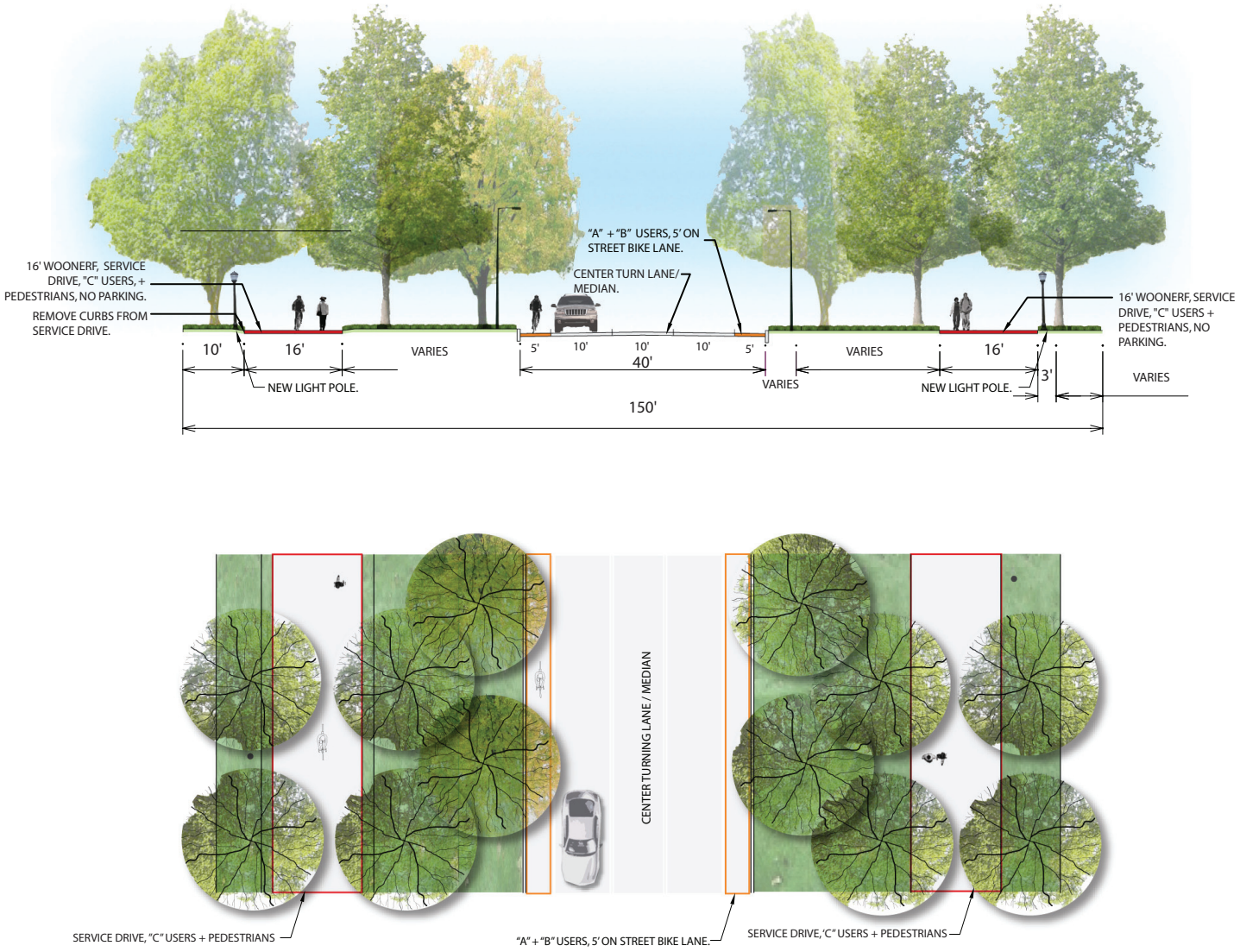


Figure 5-20: Southern Parkway: Zone 3 Prototypical Section & Plan

service drive will accommodate all pedestrian and bicycle activity, this eight-foot walk is not needed.

Bicycle and pedestrian improvements along Wellington Avenue are recommended to form a stronger connection from Southern Parkway to the Beechmont Community Center.

Zone 5: Woodlawn to Taylor Boulevard:

The section of Southern Parkway from Woodlawn to Taylor Boulevard is relatively consistent, with existing service drives located almost continuously along both sides of the parkway, connected with a shared-use path where there are gaps. The homes along this section of the parkway are served by driveways that connect to the service drives. Long term consideration should be given to removing these driveway connections and requiring rear access to homes where alley right-of-way exists. This can be accomplished along both sides of Southern Parkway from Taylor Boulevard to Lone Oak Ave.

SOUTHERN PARKWAY : Shared-use paths on both sides of parkway utilizing existing service drives and new ten-foot connections

This segment is similar in make-up to that of Zone 2. The existing service drives along each side should be modified to accommodate the shared-use path. Along the west side, the 24-foot paved drive should be reduced to 16 feet and the remaining eight feet of pavement returned to the planted verge. As before, this will allow for the reintroduction of the second row of trees. Along the east side, the existing 22-foot service drive should be reduced to 16 feet, allowing the remaining six feet of pavement to be returned to the planted verge. The east side of the parkway already contains the intended three tree rows. Where gaps exist in the tree canopy, efforts should be made to replant appropriate tree species.

Bicycle and pedestrian improvements are recommended to connect Olmsted South Middle School and Iroquois High School Magnet Career Academy to Southern Parkway. Improvements are also recommended for these other important connections:

- School Way and Southland Boulevard to Rutherford Elementary School
- Woodlawn Avenue to the Iroquois Library, Bellevue Park, Cliff Park, the Beechmont Post Office, and Louis B. Israel Park
- Woodlawn Avenue from Southern Parkway to the Louisville International Airport to accommodate "Metropolitan College" students traveling between the University of Louisville and the UPS Air Operations facility

Unique Recommendation Elements

Three locations along Southern Parkway have unique characteristics that require more careful design considerations - the two termini of the parkway, and the mixed use node found at the intersection of Southern Parkway with Woodlawn Avenue.

Taylor Boulevard Terminus

The Southern Parkway terminus at Taylor Boulevard is an important intersection that serves as the gateway to and from Iroquois Park. Bicycle and pedestrian connections to Iroquois Park need to be enhanced and more clearly defined. A TARC transfer station with pedestrian amenities should also be provided at this location.

Woodlawn Intersection

A five-legged intersection surrounded by a mix of land uses, the Woodlawn Avenue intersection represents a unique challenge to the character of Southern Parkway. Ornamental trees, clocks, gazebos and decorative plantings visually dominate the landscape.

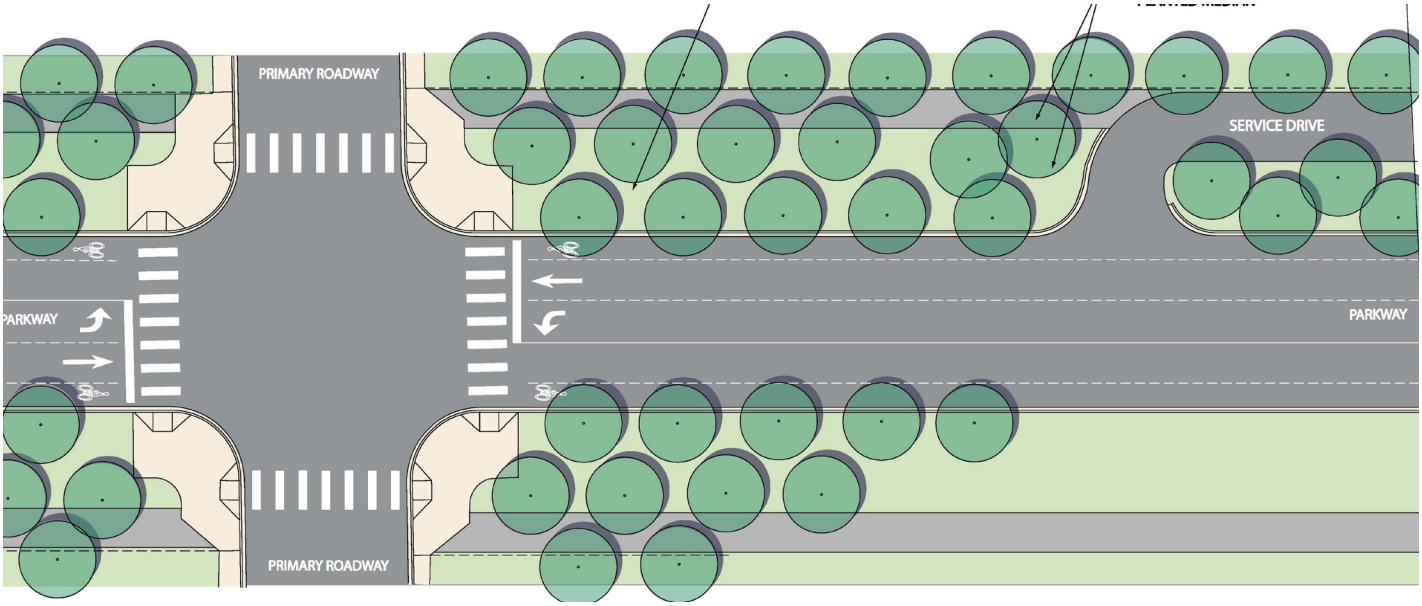
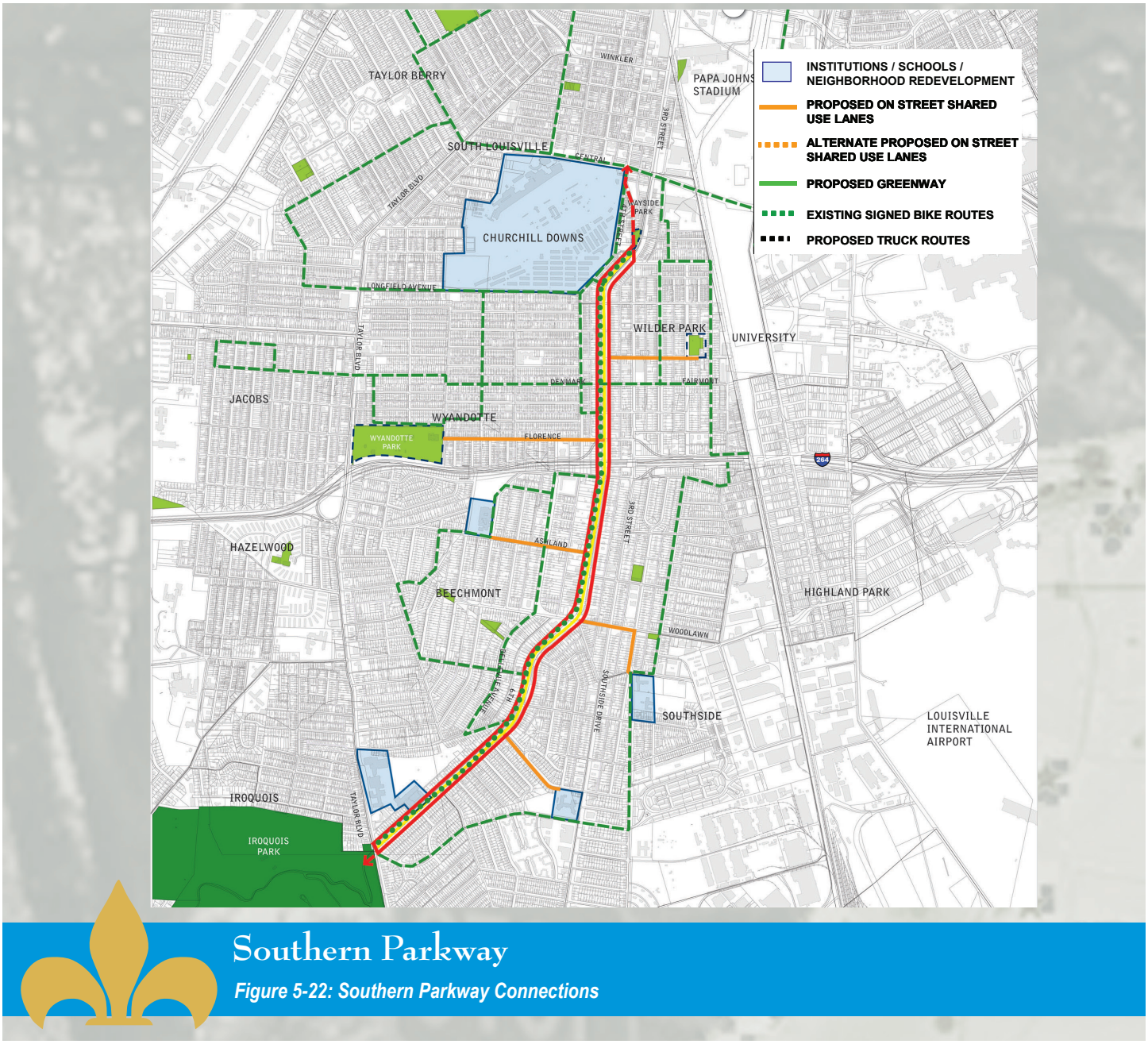


Figure 5-21: Southern Parkway: Prototypical Plan of service drive and shared-use pathway at intersection crossings.



Southern Parkway

Figure 5-22: Southern Parkway Connections

Figure 5-22: *Connection opportunities along Southern Parkway.*

As one of the important intersections in the parkway system, the Woodlawn intersection has an opportunity to serve as a model for the other mixed use intersections along parkways. Community social spaces are important, but at this location they should be visually subservient to the tree canopy and continuous ribbon of green at the parkway edge. As these existing elements age, opportunities to redesign and locate them further from the intersection should be explored. A TARC transfer station with pedestrian amenities should also be considered for this location.

Wayside Park Terminus

The terminus of Southern Parkway at the Oakdale and Third Street intersection is equally significant. Extending the parkway character through this intersection at Wayside Park is vital for maintaining continuity of the parkway character into the "Hub" area. Replacing gaps in the tree rows at this intersection is an important first step in re-establishing the "green ribbon". Pedestrian crosswalk locations should also be reconstructed to run perpendicular to Southern, Oakdale, and Third Street, with appropriate landing areas on each side of the road to shorten crossing distances. A TARC transfer station with pedestrian amenities should be provided on each side of Southern Parkway, on the far side of the intersection.

The design recommendation for Southern Parkway takes advantage of the service drives and pedestrian circulation patterns already established along the parkway.

Parkway Recommendations:
Eastern Parkway

Eastern Parkway

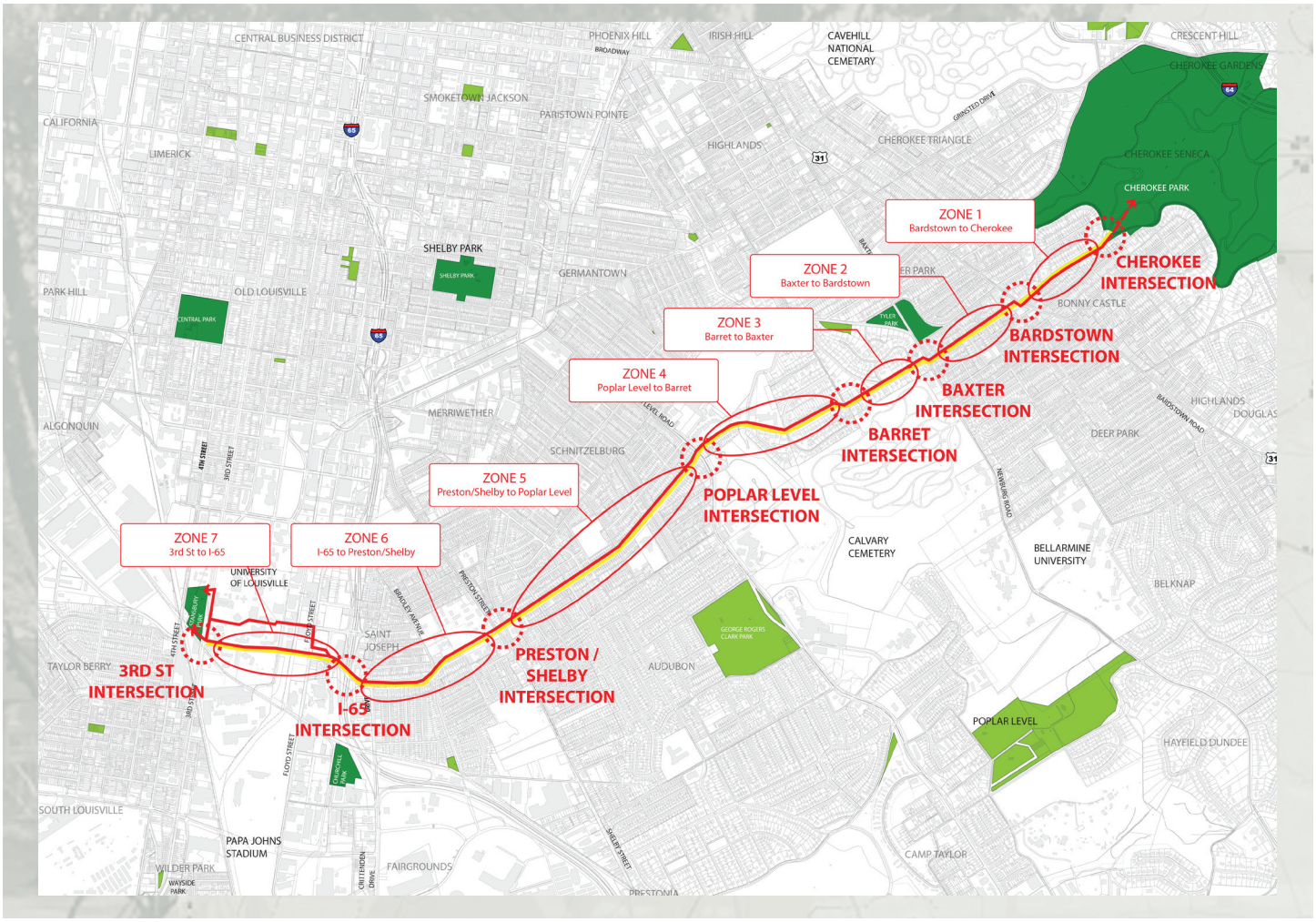


Figure 5-23: *Eastern Parkway conceptual plan with character zones.*

The overall design intent for Eastern Parkway is to incorporate a shared-use path along one side of the parkway with pedestrian sidewalks on the opposite side. Due to topography, adjacent land uses and existing traffic patterns, it is recommended that the shared-use path begin on the south side of the parkway at Cherokee Park, then cross to the north side utilizing enhanced pedestrian crossings at Bardstown Road. The path should continue along the north side of the parkway for the remainder of the length.

The entire length of Eastern Parkway should undergo a roadway reconfiguration by re-striping the roadway to provide two, ten-foot traffic lanes and one ten-foot center turning lane. Five-foot bike lanes should be provided on both sides of the roadway for Type “A” and “B” cyclists. There are two exceptions to this recommendation: Cherokee Park to Bardstown Road and Baxter Avenue to Barret Avenue. These two segments are unique in their configuration as discussed in zone-by-zone recommendations.

In conjunction with the implementation of a shared-use path system for Eastern Parkway, it is recommended that a more comprehensive project be initiated to correct the existing deficiencies of the roadway. The project should include complete reconstruction of some components, as described below.

Curb and Gutters

The existing curb and gutters should be removed and replaced. Their non-standard design is hazardous for vehicular and bicycle operations. They are non-traversable at drives, resulting in various non-engineered solutions that typically block the drainage function of the gutter (i.e. homeowners fill in the gutter so they can drive across, forming a dam). These gutters also reduce the functional area of pavement due to their excessive size.

Crown and Profile

The crown (cross slope) and profile of the existing roadway does not meet typical design guidelines and does not fit well with the surroundings. The high crown (or "hump") at the center of many segments of Eastern Parkway appears to result from repeated asphalt overlays over a period of many years. These repeated overlays have been required in large part due to poor drainage of the roadway. Likewise, the profile (grade) of the roadway is too high at many locations to allow drainage from properties into the storm sewer system.

Poor Drainage

Some areas of Eastern Parkway are not served by storm sewers. Where there are storm sewers, they often serve relatively small areas as extensions from side street systems. As previously stated, the gutter system works poorly due to owner-installed obstructions at drives, and many of the inlets on Eastern Parkway are completely clogged with silt.

Complete reconstruction of the roadway would provide the opportunity to redefine and upgrade drainage systems, lower the roadway profile to better match abutting property, and provide standard cross slopes. All of these changes would go hand in hand with curb and gutter replacement. In fact, they would not be possible unless all of the work was included in one coordinated design.

Although the benefits of curb and pavement replacement are clear, the associated construction cost would be high. An engineering study should be conducted to determine whether some portions of the existing roadway and drainage system can be modified and retained. A reliable cost estimate for the roadway reconstruction cannot be produced until that is done. That study should also review staging and maintenance of traffic considerations for the project.

EASTERN PARKWAY:
Shared-use path on one side of the parkway with pedestrian walks on the opposite side of parkway.

South side of Eastern:
Cherokee Park to Bardstown Rd.

North side of Eastern:
Bardstown Rd. to 3rd St.

Zone 1: Cherokee Park to Bardstown Road:
For the parkway segment beginning at Cherokee Park, it is recommended that the ten-foot shared-use path be constructed along the south side of the roadway between the first and second row of trees. This shared-use path would replace the existing five -foot pedestrian walkway. This route would avoid the heavy traffic movements at the intersection of Eastern Parkway and Willow Avenue. The existing five-foot pedestrian sidewalk should remain along the north side of the parkway.

This segment of the parkway is unique in the fact that public parking is allowed along both sides. It is recommended that this parking remain, with the use of shared-use lanes along the roadway in order to accommodate the Type 'A' and 'B' cyclists.

The parkway character breaks down at the intersection of Bardstown Road due to wide turning lanes and commercial land uses. Parkway character is also interrupted by non-contributing landscape elements encroaching into the parkland. Items such as decorative fences, stairs and ornamental plantings should be removed to reestablish a consistent parkway edge. Where possible, buffer plantings should be provided to screen conflicting land uses. Efforts also should be made to replant the tree rows throughout this segment of the parkway, consistent with the original Olmsted character.

Zone 2: Bardstown Road to Baxter Avenue:
Beginning at Bardstown Road, the shared-use path should be provided along the north side of the parkway due to heavy traffic movements. An eight-foot shared-use path should be constructed to replace the existing six-foot sidewalk. Along the south side of the parkway, the existing six foot sidewalk should remain.

In order to reestablish the original Olmsted vision of the green ribbon, the existing utility poles along both sides of the parkway should be relocated to parallel alleys or the lines should be buried in place. This will allow for the introduction of a second row of trees along both sides of the parkway.

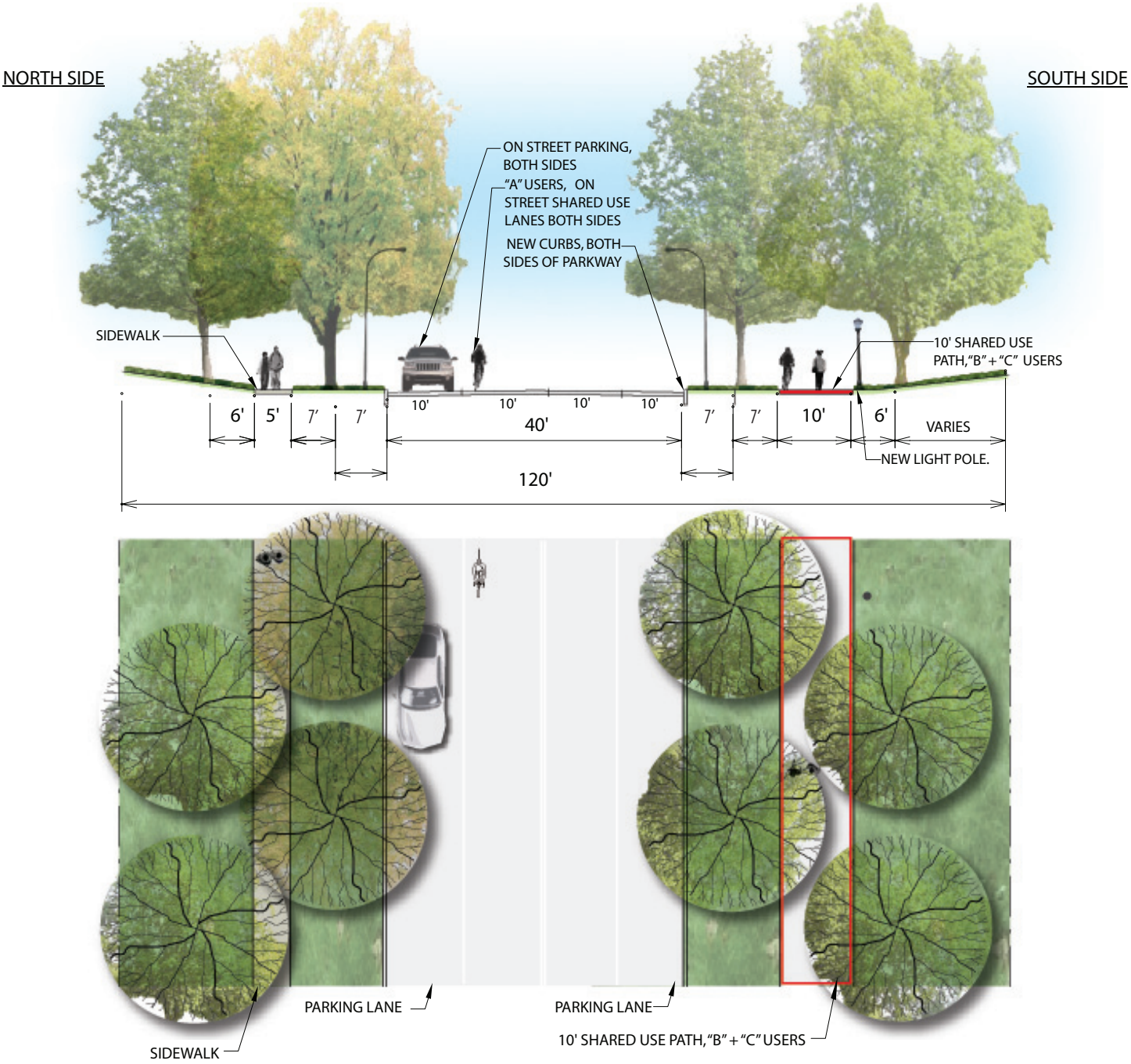


Figure 5-24: Eastern Parkway: Zone 1 Prototypical Section & Plan - Cherokee Park to Bardstown Road

NORTH SIDE

SOUTH SIDE

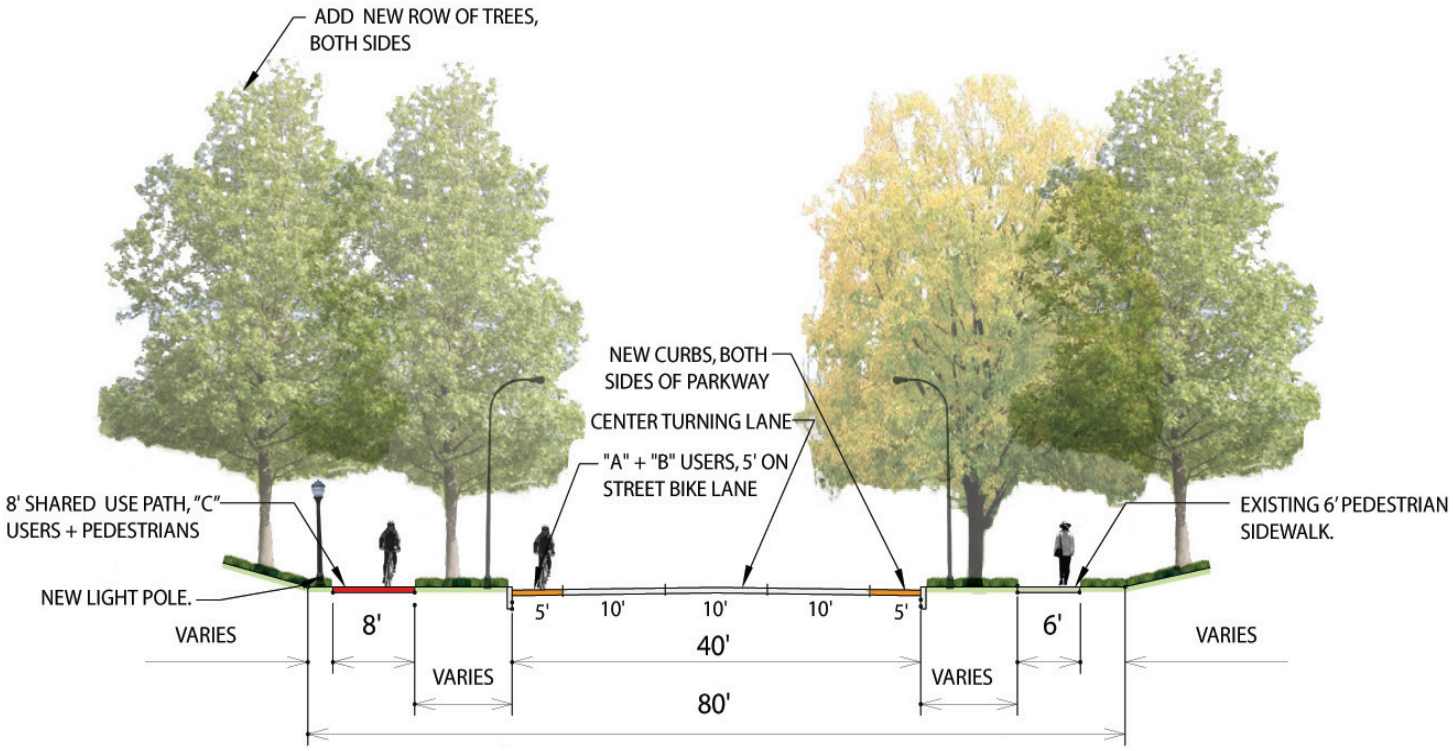


Figure 5-25: Eastern Parkway: Zone 2 Prototypical Section - Bardstown Road to Baxter Avenue

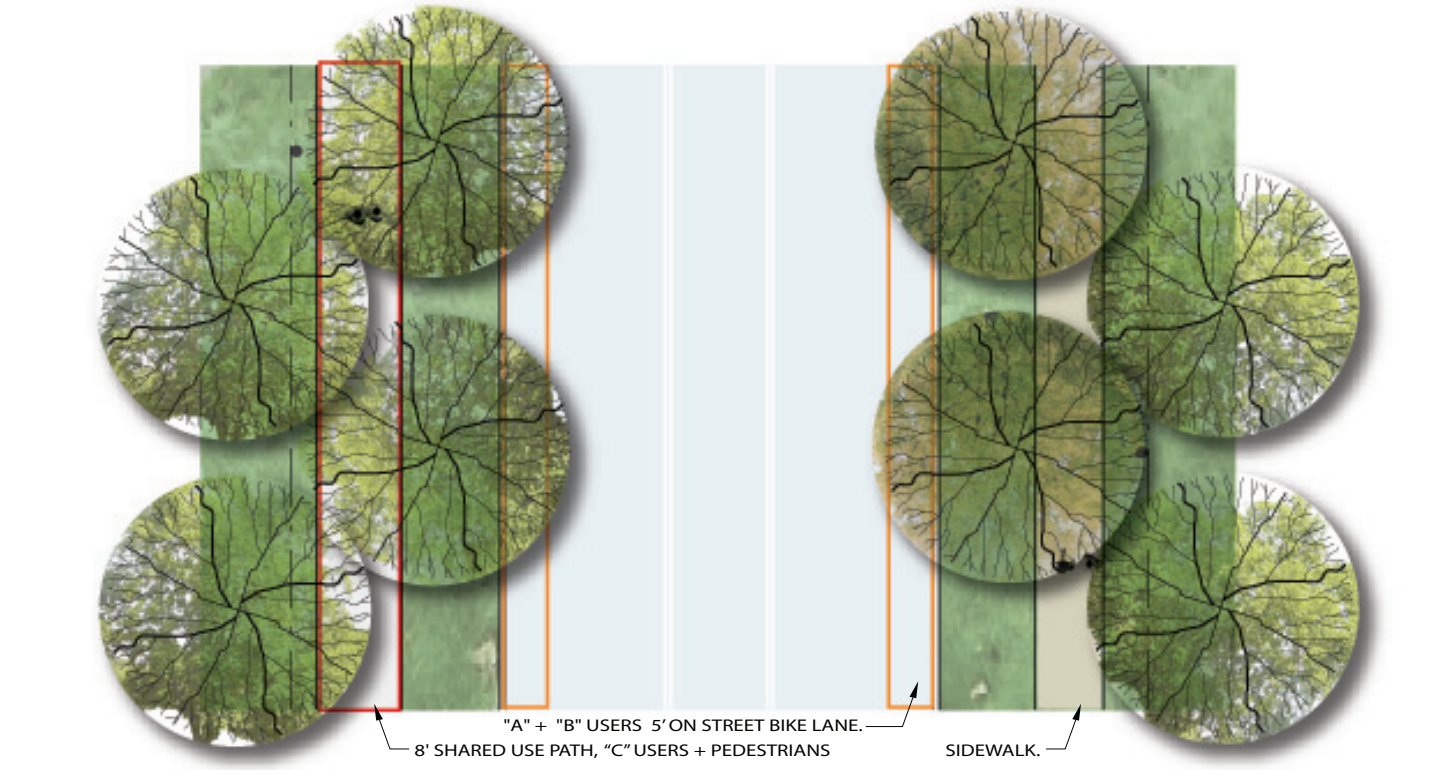


Figure 5-26: Eastern Parkway: Zone 2 Prototypical Plan - Bardstown Road to Baxter Avenue

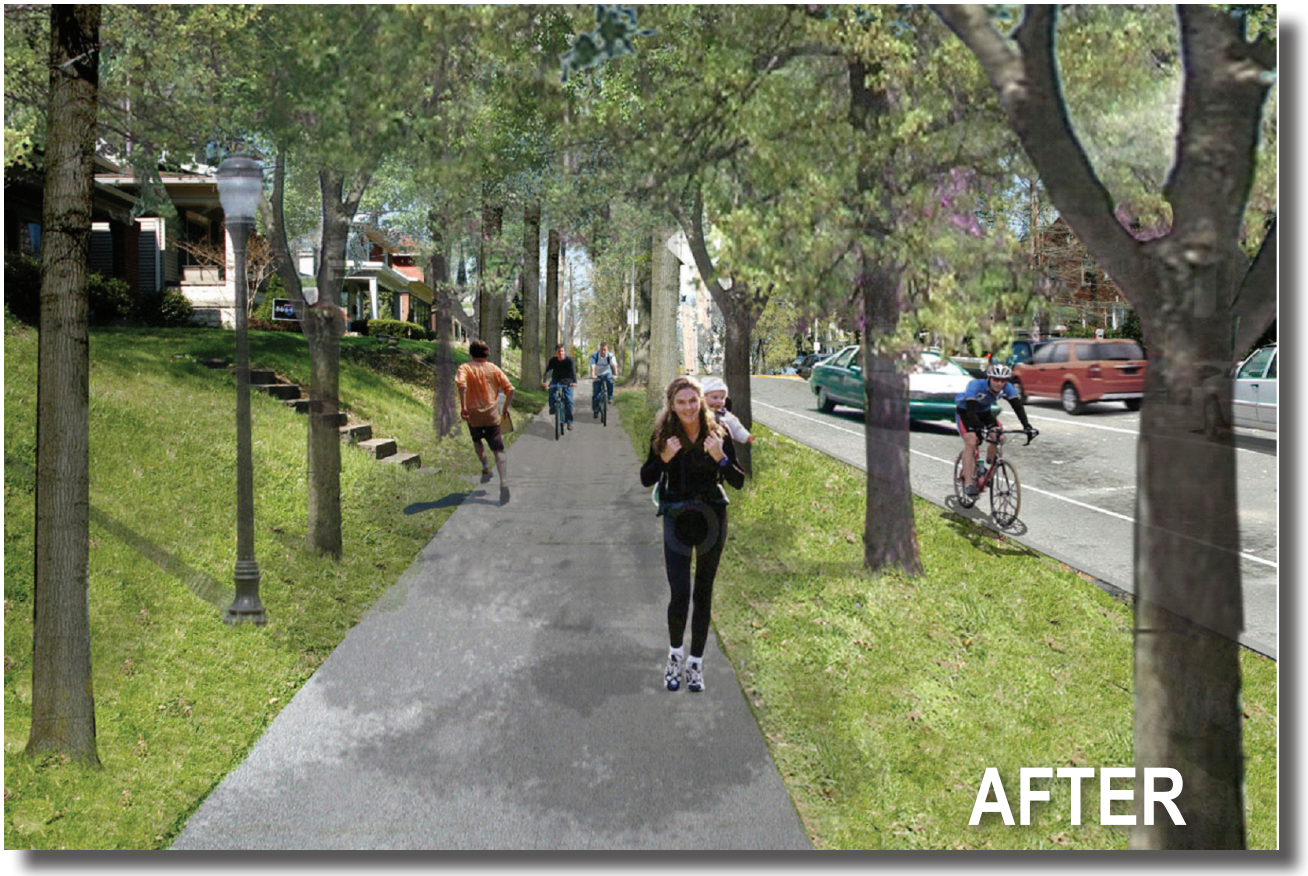


Figure 5-27: Eastern Parkway: Zone 2 Protypical Sketch - Bardstown Road to Baxter Avenue

The general parkway character further breaks down in the commercial area near the Baxter Avenue intersection. By reclaiming parking areas on public property and converting them back to natural parkland, the green ribbon can be restored.

Zone 3: Baxter Avenue to Barret Avenue:

The segment of Eastern Parkway from Baxter Avenue to Barret Avenue is unique in that it is the only segment of parkway to include a raised median. It is recommended that this segment be reconfigured to provide one lane in each direction for vehicular traffic and dedicated bicycle lanes for Type "A" and "B" cyclists. Along the north side of the parkway, an 11-foot traffic lane should be provided and along the south side, 12-foot traffic lane should be provided. A five-foot bicycle lane should be included on the outside of each roadway.

An eight-foot shared-use path should be constructed along the north side of the parkway immediately adjacent to the roadway. Along the south side a six-foot pedestrian sidewalk should be constructed adjacent to the parkway. The existing six-foot sidewalk located in the center of the median should remain.

High visibility crosswalks should be provided at intersections of Baxter Avenue and Barret Avenue to ensure safe crossings for pedestrians and cyclists wishing access the landscaped median. Similar treatments should be used at the median breaks along this segment of the parkway.

Zone 4, 5 & 6: Barret Avenue to I-65:

A ten-foot shared-use path is recommended for the north side of the parkway, located between the first and second row of trees.

NORTH SIDE SOUTH SIDE

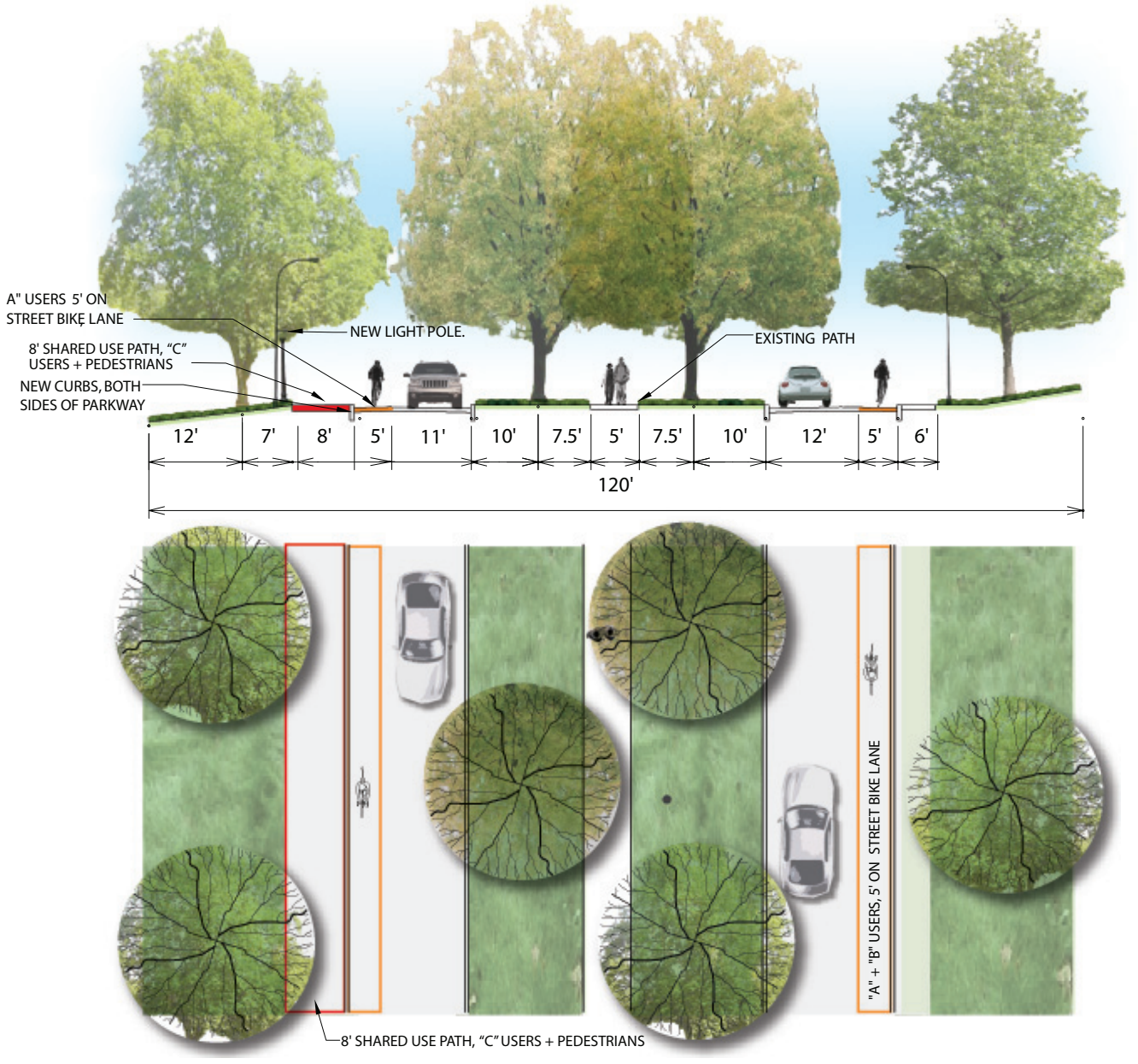


Figure 5-28: Eastern Parkway: Zone 3 Prototypical Section & Plan - Baxter Avenueto Barret Avenue

Figure 5-29: Eastern Parkway: Zone 3 Prototypical Sketch Baxter Avenue to Barret Avenue

Along the south side, the existing five-foot pedestrian sidewalk should remain. In areas on the south side that do not have an existing sidewalk, a new five-foot sidewalk should be constructed to maintain pedestrian continuity.

From Poplar Level to Shelby there are numerous driveways with accompanying parking incursions which should be eliminated by requiring the use of rear alleys. The area surrounding the Shelby and Preston Street intersections has commercial incursions, along with a loss of parkway character. The opportunity exists to reassert the parkway character by introducing the missing row of trees. The edge of the parkway should be reinforced by providing plant material along the stretch from Preston Street to Bradley Street, screening the adjacent asphalt service road.

Zone 7: I-65 to Third Street:

This section of the parkway is the subject of a plan commissioned by the University of Louisville, and currently underway at the time of this study. The planning activities have been coordinated, and the recommendations presented are believed to be consistent with both plans.

For this segment, a ten-foot shared-use path should be constructed along the north side of the parkway, separated from the roadway by a five-foot planted verge. This five-foot verge will allow for the introduction of an additional row of trees in the area. Along the south side, the existing five-foot sidewalk should remain.

It is also the recommendation of this report that the existing roadway be reconfigured to include two ten-foot travel lanes and

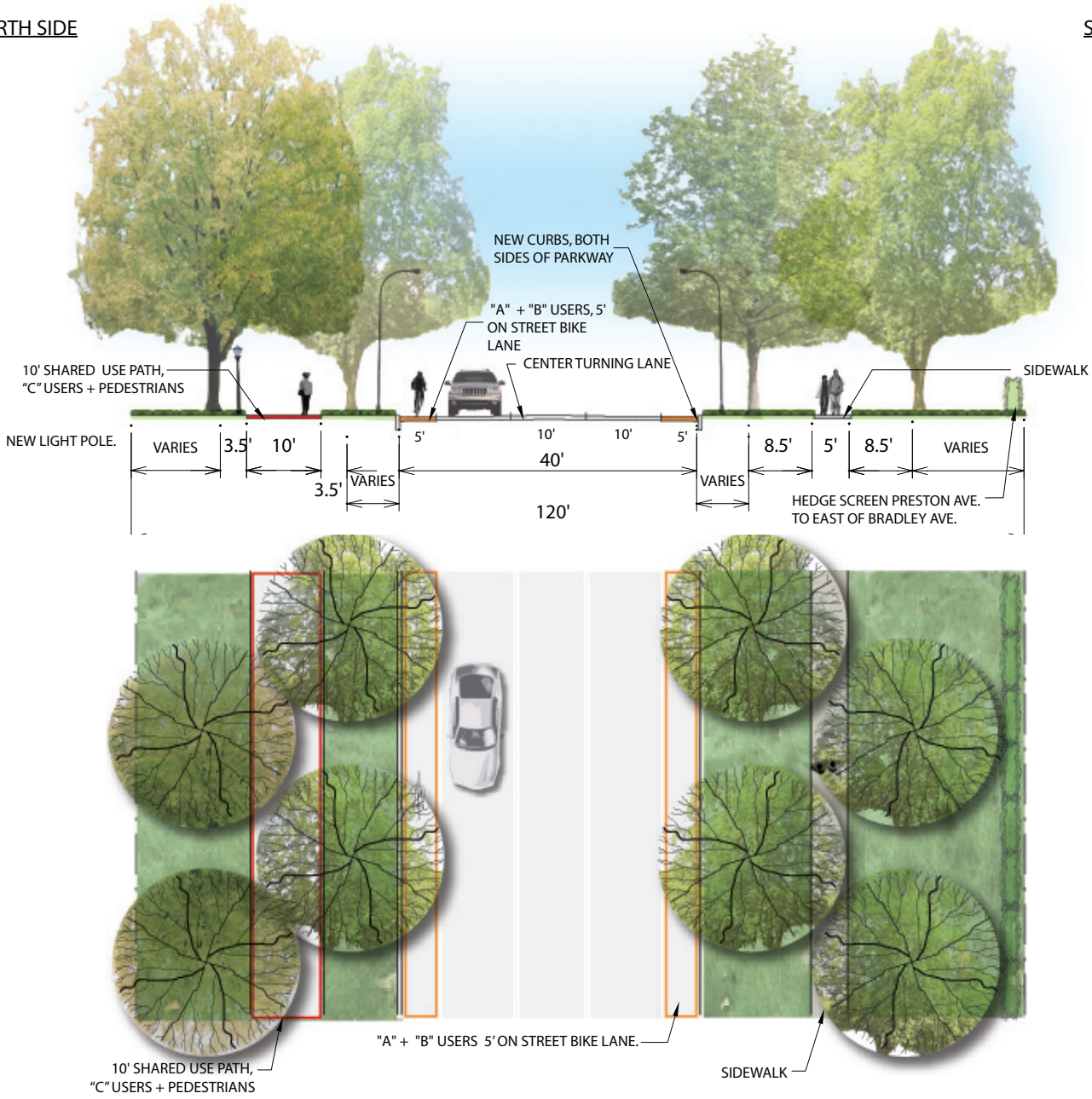


Figure 5-30: Eastern Parkway: Zone 4, 5 & 6 Prototypical Section & Plan

Figure 5-31: Eastern Parkway: Zone 4, 5 & 6 Protypical Sketch

NORTH SIDE

SOUTH SIDE

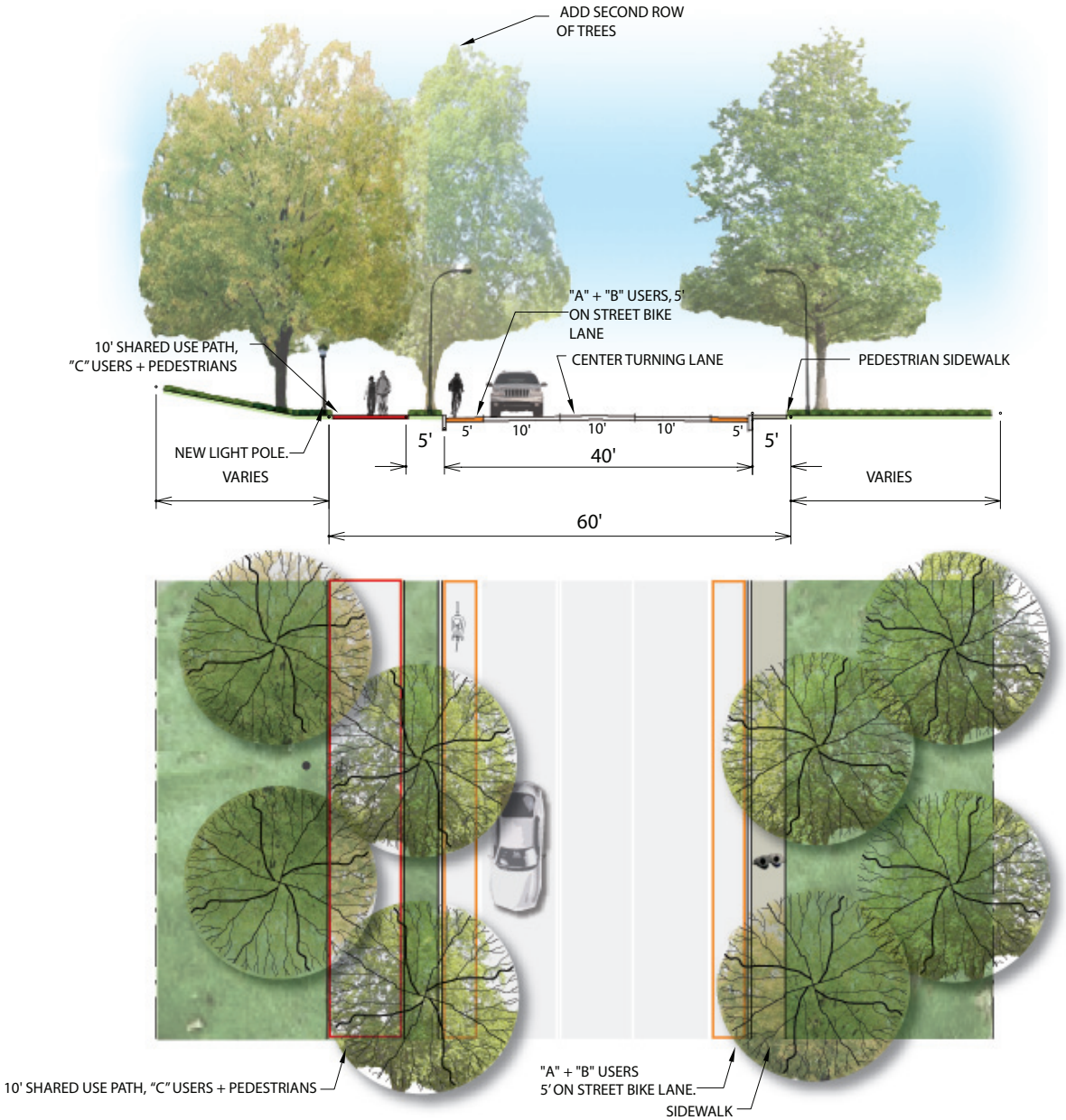
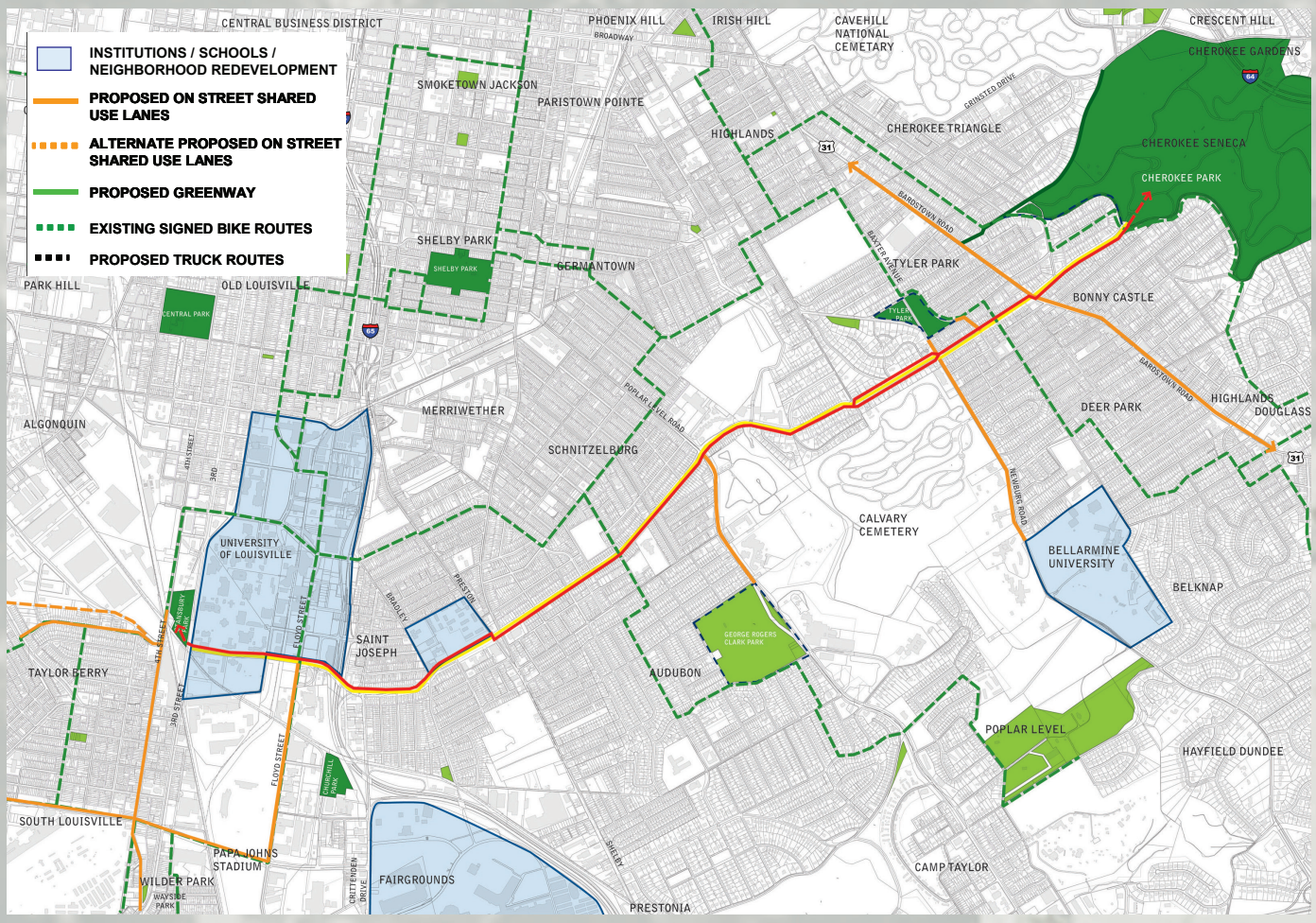


Figure 5-32: Eastern Parkway: Zone 7 Prototypical Section & Plan



Eastern Parkway

Figure 5-33:Eastern Parkway Connections

Figure 5-33: *Connection opportunities along Eastern Parkway.*

Eastern Parkway is the most heavily traveled of the Olmsted Parkways at peak times. Recommendations include conducting a detailed traffic study to verify traffic counts and data.

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Parkway Recommendations:
The "Hub"

The Hub

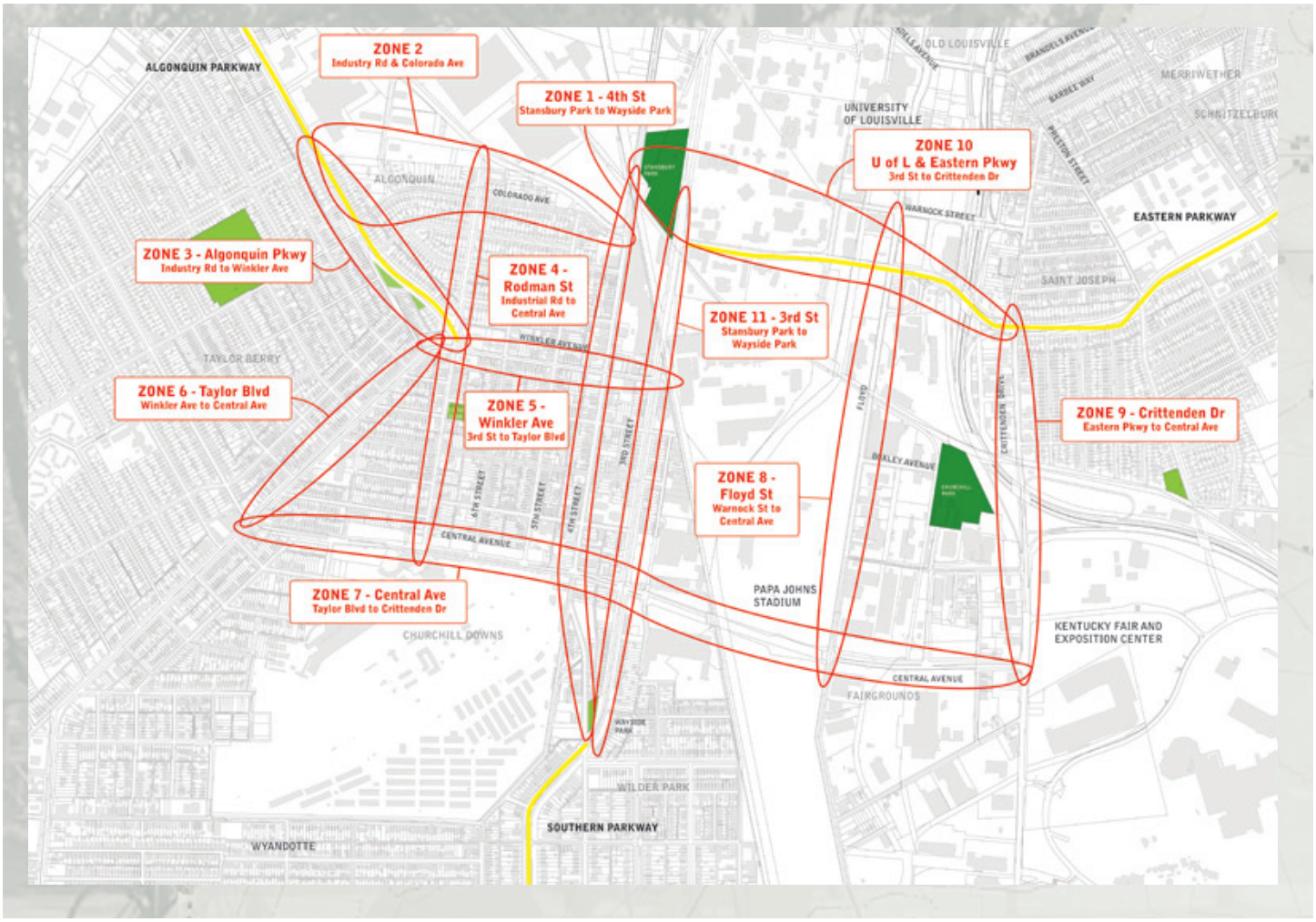


Figure 5-34: *The "Hub" conceptual plan with character zones.*

The overall design intent of the Hub area is to provide shared-use path connections between the parkways as a loop of on-street and shared-use paths that utilize the existing street network.

The importance of the Hub area lies in the fact that, by using the existing network of streets, direct connections can be drawn between each Olmsted Parkway. The recommendations for the Hub are broken down into several priority categories, with the first being to complete the parkway loop by means of the shared-use paths and on-street bicycle route.

HUB CONNECTION CATEGORY 1: Shared-Use Path Connection

Algonquin Parkway to Eastern Parkway:
The primary connection for the shared-use path should be through Colorado Avenue. The shared-use path should continue along Algonquin Parkway to Colorado Avenue. From there it should travel along the south side of Colorado Avenue and exit through the cul-de-sac to cross 4th Street. The shared-use path should continue north on 4th Street and should cross through Stansbury Park to the intersection of Eastern Parkway and 3rd Street.

The future expansion of this connection should be provided by the acquisition of land immediately north of Colorado Avenue. In this case the shared-use path should continue along Algonquin Parkway to approximately Lindbergh Drive. From there the shared-use path should continue east along the back side of the industrial institutions. The shared-use path should intersect Industry Road and will extend along the south side of Industry Road to 4th Street. At the intersection of 4th Street the shared-use path would cross through Stansbury Park to the intersection of Eastern Parkway and 3rd Street.

Eastern Parkway to Southern Parkway:
The primary connection for the shared-use path should be along Floyd Street. Pedestrians and Type "C" cyclists would travel along Eastern Parkway Hahn Avenue intersection. From that intersection, the shared-use path would be on the west side of Floyd Street until the intersection of Floyd Street and Central Avenue. The path would turn west on Central Avenue, then south on 3rd Street to link with the shared-use path system of Southern Parkway.

Given the long term design challenges associated with the 3rd Street recommendations, the direct connection between Eastern Parkway and Southern Parkway is considered a future connection. As the 3rd Street corridor develops and the viaducts are reconstructed, Eastern Parkway should be directly connected to Southern Parkway by way of a shared-use path along 3rd Street.

Southern Parkway to Algonquin Parkway:
The primary shared-use path connection should be along Rodman Street and Central Avenue. The shared-use path on Southern Parkway would be extended north along 3rd Street, turning west at the Central Avenue intersection. At the intersection of Central Avenue and Rodman Street, the shared-use path would turn north along Rodman and connect to Algonquin Parkway.

HUB–Loop of on-street and shared-use paths utilizing existing street network to connect Parkways:

- **Eastern to Algonquin via StansburyPark,4th Street, Colorado**
- **Algonquin to Southern via Rodman, Central, Oakdale**
- **Eastern to Southern via Floyd, Central, Oakdale**
- **4th Street Connection to City Bike Plan**
- **Pedestrian Walk Improvements on 3rd, Winkler, Crittenden & Taylor**

HUB CONNECTION CATEGORY 2: On-Street Bicycle Route Connection

Algonquin Parkway to Eastern Parkway:
The primary connection for the Type "A" and "B" cyclists should utilize Colorado Avenue. The bike route should continue along Algonquin Parkway until the intersection of Algonquin Parkway and Colorado Avenue. From there bicyclists should use shared-use lanes along Colorado Avenue. The bicycle route should exit Colorado through the cul-de-sac and connect to 4th Street at this intersection. Dedicated bike lanes should continue north on 4th Street, and should cross through Stansbury Park to the intersection of Eastern Parkway and 3rd Street.

Eastern Parkway to Southern Parkway:
The primary connection should be Floyd Street. Type 'A' and "B' cyclists would travel along Eastern Parkway to Hahn Avenue. From that intersection, shared-use lanes could be used along both sides of Floyd Street to Central Avenue. Bicycle traffic would then use dedicated bike lanes to travel west on Central Avenue. At 3rd Street, bicycle traffic would turn south and use dedicated bike lanes to connect with Southern Parkway.

As a future connection, bicycle traffic should be connected via shared-use lanes on 4th Street. Bicycle traffic should continue south on 4th Street and turn east onto Oakdale Avenue near Wayside Park. This shared-use lane system should connect directly to the Southern Parkway system at Wayside Park.

Southern Parkway to Algonquin Parkway:
The on-street bicycle route would be along Rodman Street and Central Avenue. The designated bike lane proposed for Southern Parkway would extend north along 3rd Street and would turn west at the Central Avenue intersection. At the intersection of Central Avenue and Rodman, bicycle traffic would turn north and will utilize shared-use lanes to connect to Algonquin Parkway at the Rodman Street intersection.

Implementing the connections listed above would link the three parkways to one another and to key institutions of the city. Additional recommendations are provided for the zones within the Hub area to further enhance and reinforce the historic character found along the Parkways. By including additional tree plantings and pedestrian sidewalks, the hub area can be enhanced and the beauty, function and historic character of the entire parkway system can be elevated.

Zone 1: 4th Street, Stansbury Park to Wayside Park:
Given the prominence of 4th Street, it is recommended that a streetscape enhancement concept be applied from Stansbury Park to Wayside Park. Beginning at Stansbury Park, a five-foot pedestrian sidewalk should be constructed along the west side, separated from the road by a seven-foot planted verge. Along the east side, an eight-foot shared-use path should be constructed immediately adjacent to the road. This shared-use path would serve as a key connection between Eastern Parkway and Algonquin Parkway, as discussed later in the chapter.

Just south of Stansbury Park, the existing viaduct poses several design challenges. The widths and clearances provided by the viaduct are not conducive to the incorporation of a shared-use path or pedestrian sidewalks. However, traffic volumes on this portion of 4th Street would allow removing one of the travel lanes and instituting a six-foot on-street bike lane. It is recommended that pedestrian walks be incorporated within the existing viaduct. Given the existing state of the structure it is feasible that, in the near future, the viaduct will need to be rebuilt. At that time, Louisville Metro should work with the railroad to design a viaduct system that utilizes the standard dimensions of shared-use paths, pedestrian sidewalks and bicycle lanes.

The three parkways will be linked to one another and to key institutions of the city. The additional recommendations made for the zones within the Hub area are meant to further enhance and reinforce the historic character found along the Parkways.

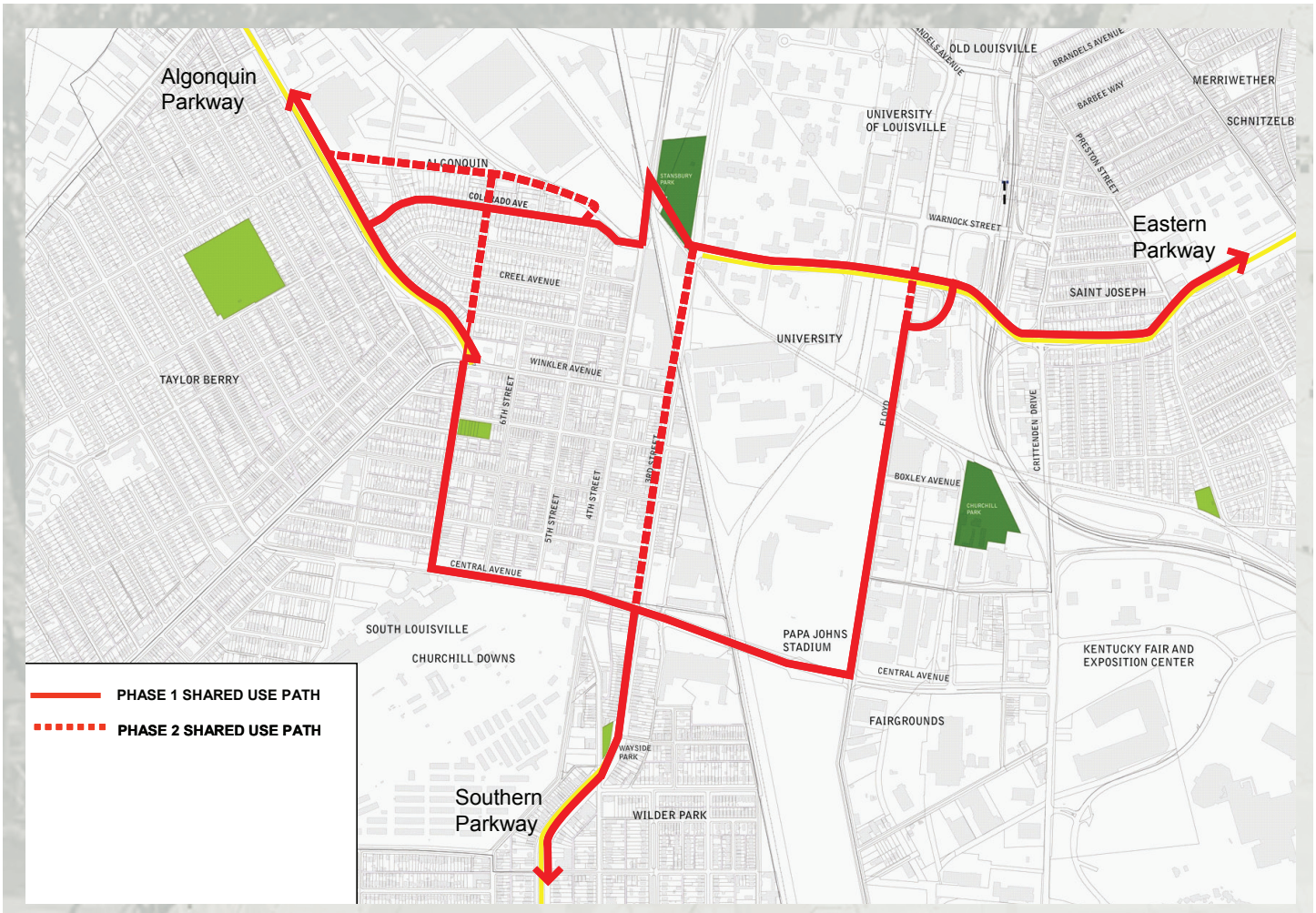


Figure 5-35: The Hub: Shared-use Path and On-Street Route Connection Plan

South of the viaduct, the existing 60-foot right-of-way would allow for ten-foot pedestrian sidewalks to be placed along both sides of the road. Tree plantings could be provided by using five-foot tree grates and a structural soil mix. The existing utility lines would need to be relocated or buried in place.

South of Central Avenue, the pedestrian walks and bicycle traffic should be routed onto Oakdale Avenue. A ten-foot pedestrian sidewalk should be constructed immediately adjacent to both sides of the roadway. Street tree plantings should be placed along the roadway using five-foot tree grates, and existing overhead utility lines should be relocated or buried. The Type 'A' and 'B' cyclists would be accommodated by shared-use lanes along Oakdale Avenue.

Efforts should be made to incorporate zoning ordinances to preserve and enhance the quality of 4th Street. As future development or redevelopment occurs, the city should require buffer plantings, limit

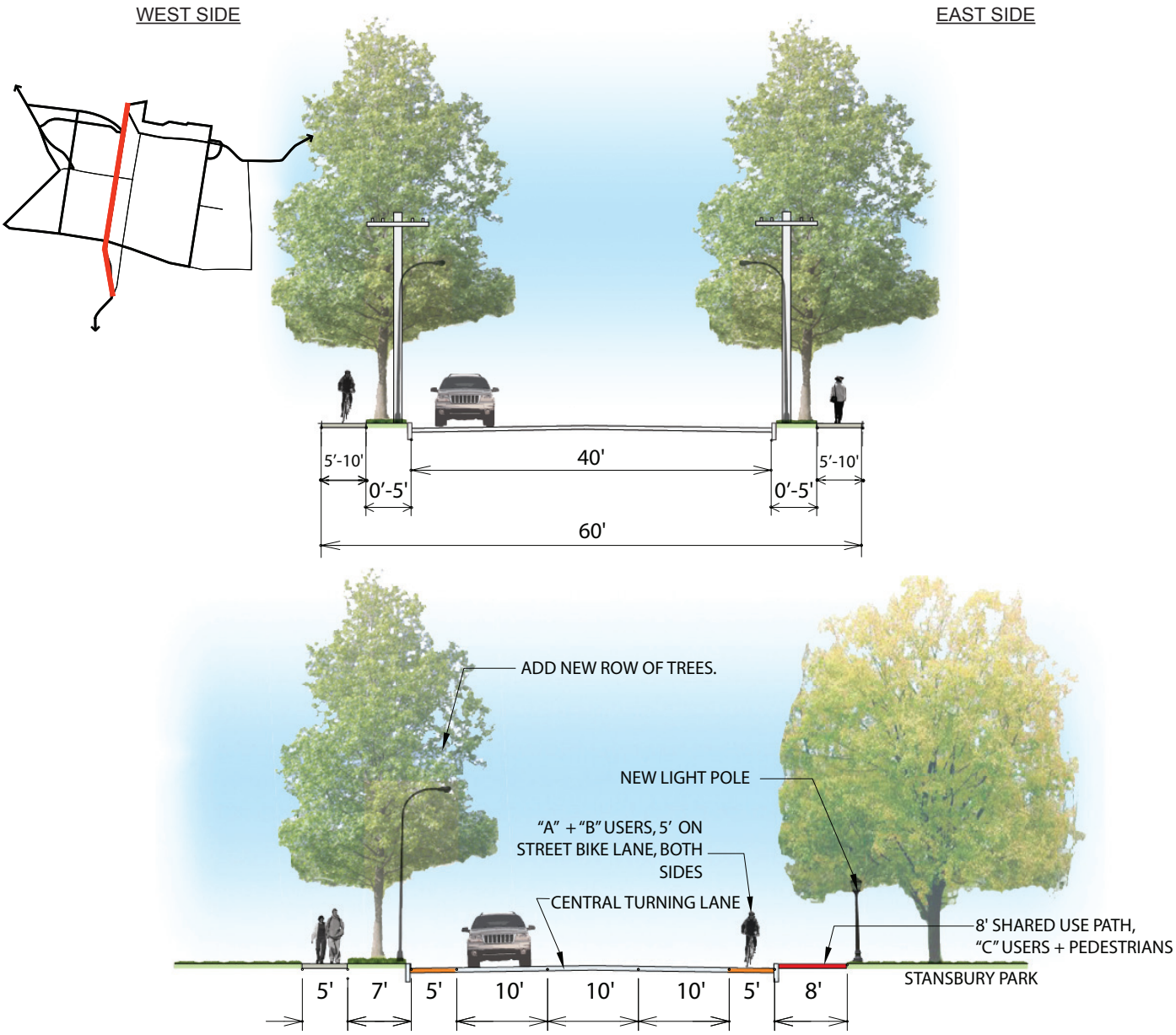


Figure 5-36: The Hub: Zone 1 4th Street & Stansbury Park Existing & Proposed Cross-Section

curb cuts, and establish appropriate roadway setbacks. By utilizing a series of landscape and zoning ordinances, area parking lots could be screened, access to local businesses and commercial areas could be limited to key areas, and adjacent land uses could be better monitored.

Although 4th Street was deemed inappropriate for the shared-use path, it is recommended that Type 'A' and 'B' bicyclists be encouraged to use 4th Street. The segment of 4th Street immediately adjacent to Stansbury Park can be reconfigured to allow for two ten-foot travel lanes and one ten-foot central turning lane. Five-foot bicycle lanes could then be accommodated on either side of the road. Some parking is permitted south of Industry Road, dedicated bicycle lanes are not recommended. Instead, Type 'A' and 'B' bicyclists should utilize a system of shared-use lanes. By routing bicycle traffic onto 4th Street, the Metro-wide bicycle route would be reinforced.

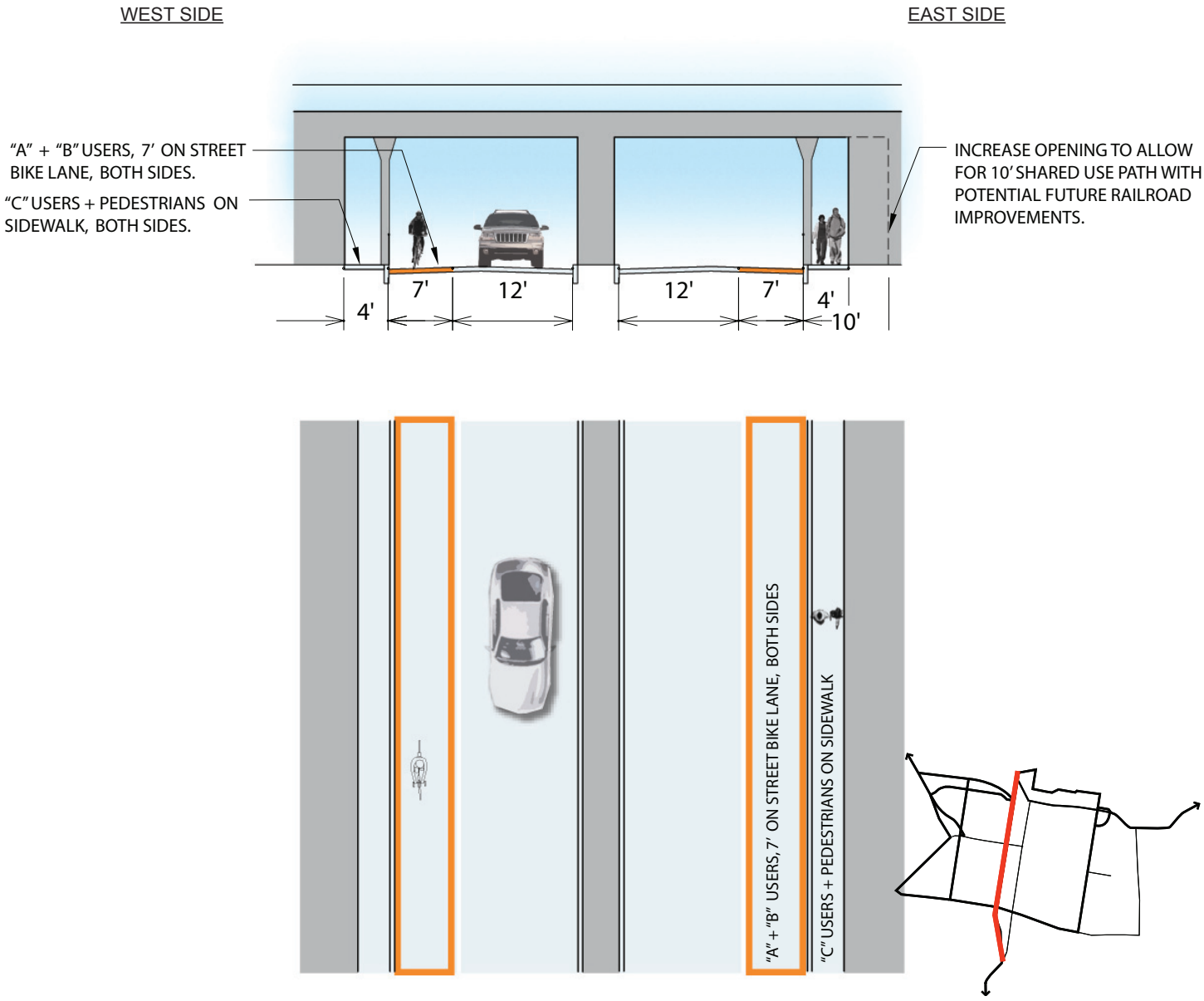


Figure 5-37: The Hub: Zone 1 4th Street & Viaduct Protytpical Treatment Cross-Section

Figure 5-38: The Hub: Zone 1 4th Street & Viaduct Illustrative Sketch

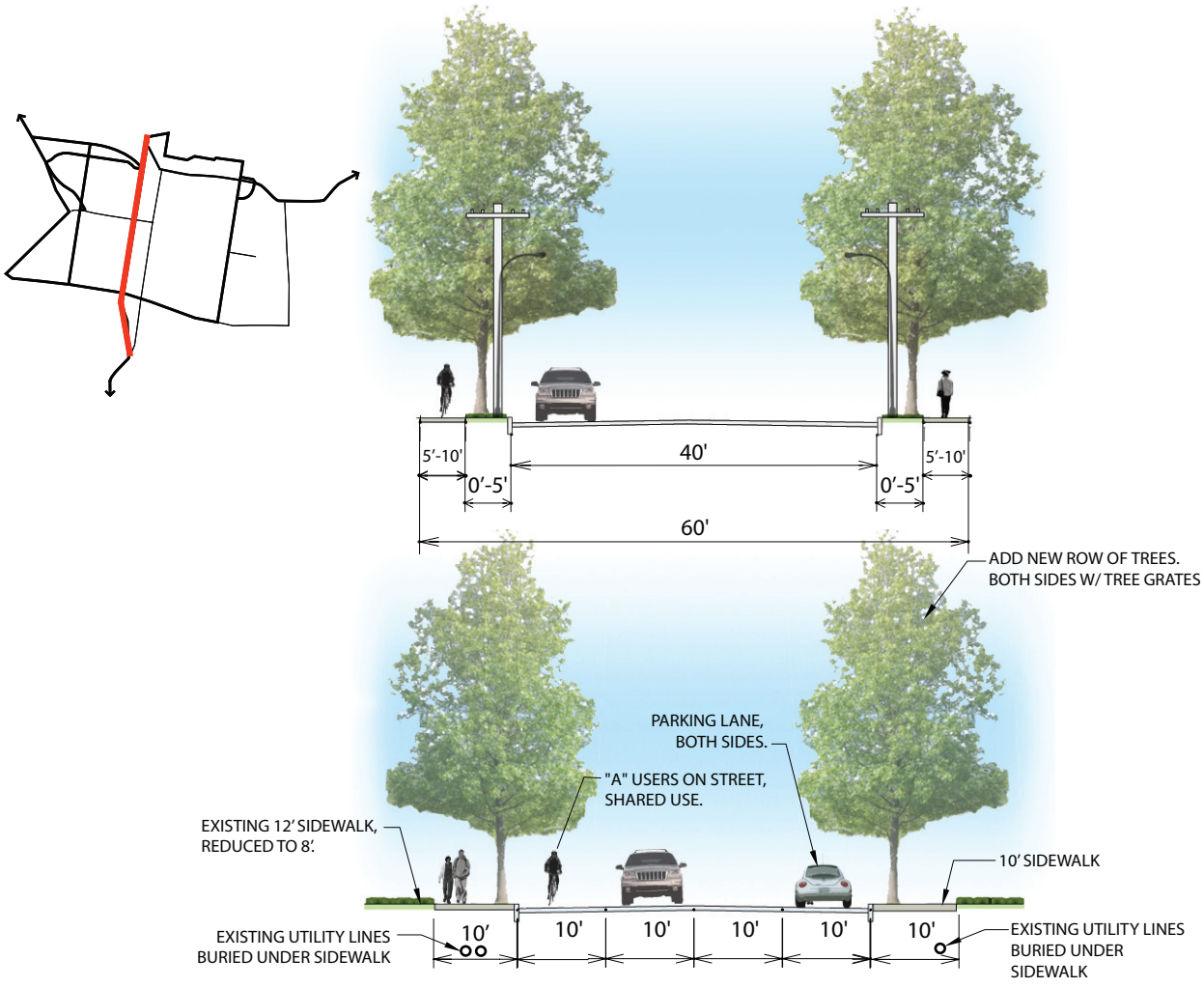


Figure 5-40: The Hub: Zone 1 4th Street Viaduct to Central Avenue Existing & Proposed Cross-Section

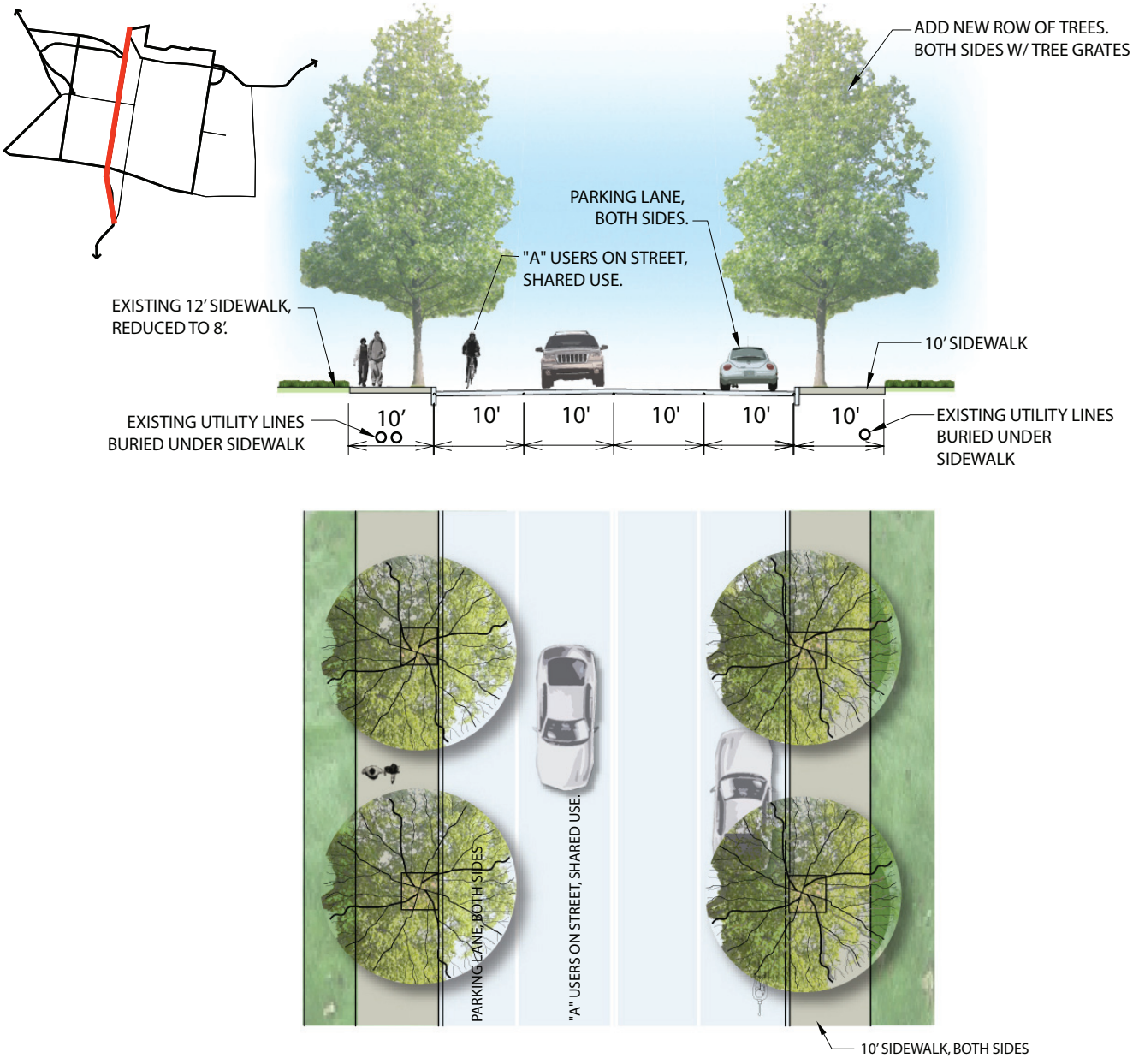


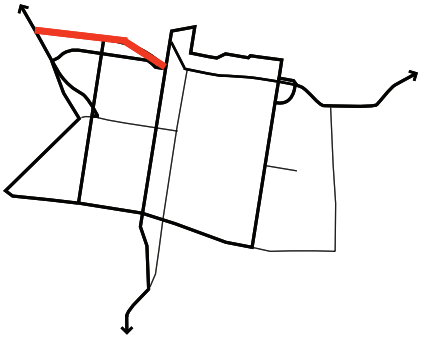
Figure 5-40: The Hub: Zone 1 4th Street & Oakdale Avenue Prototypical Cross-Section

Zone 2: Industry Road & Colorado Avenue:

This segment of the Hub is a key component in the connection of Eastern Parkway and Algonquin Parkway. This zone has two feasible alternatives. As a primary focus the shared-use path located along the east side of 4th Street would cross the roadway and extend west onto Colorado Avenue by way of a cul-de-sac. From 4th Street to Algonquin Parkway the shared-use path would be constructed along the south side of Colorado Avenue. This eight-foot path would be separated from the roadway by a variable planted utility strip. Along the north side of Colorado Avenue the existing five-foot pedestrian walk and five-foot planted utility strip would remain.

Existing parking will remain along both sides of Colorado Avenue, which would require that both Type 'A' and 'B' bicyclists utilize shared-use lanes for the entirety of Colorado Avenue. This route is in keeping with the Metro-wide bicycle route.

In order to preserve the character of Colorado Avenue, street tree plantings should be encouraged along the private property adjacent to the roadway. If additional street plantings are desired, the existing overhead utility lines will need to either be relocated or buried in place.



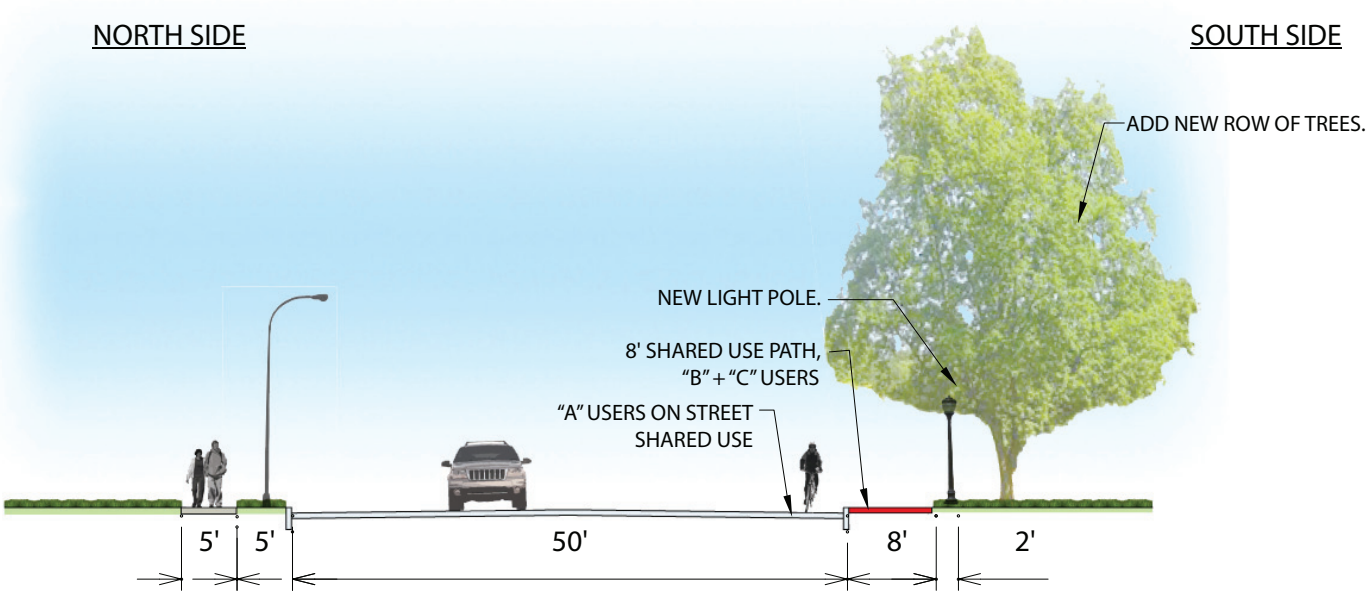
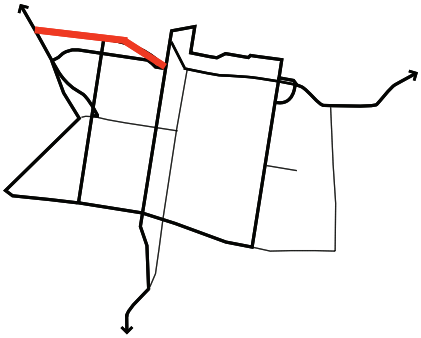


Figure 5-41: The Hub: Zone 2 Industry Road Proposed Cross-Section

As a secondary pathway system, a shared-use path should be constructed along the south side of Industry Road. This eight-foot path would be located immediately adjacent to the roadway with a new row of trees being provided on the outside edge of the right-of-way. Along the north side of the road a five-foot pedestrian sidewalk would be constructed. This walk would be separated by a five-foot utility strip planted with grass.

The shared-use path located along the southern side of Industry Road should continue until approximately Rodman Street. At this point the city has the opportunity to purchase an easement along existing parcels of land. The parcels within this area are currently developed but are underused and in disrepair. By acquiring an easement along the rear of these properties, a ten-foot shared-use path could be constructed parallel to Colorado Avenue. This shared-use path would be flanked on either side by a ten-foot planting strip that would incorporate shade trees. This route would directly intersect Algonquin Parkway at approximately Lindbergh Drive.

Zone 3: Algonquin Parkway, Industry Road to Winkler Avenue: Algonquin Parkway, from Interstate 264 to Winkler Avenue, should utilize new service drives along both sides of the Parkway to provide the continuous shared-use connections for parkway users.



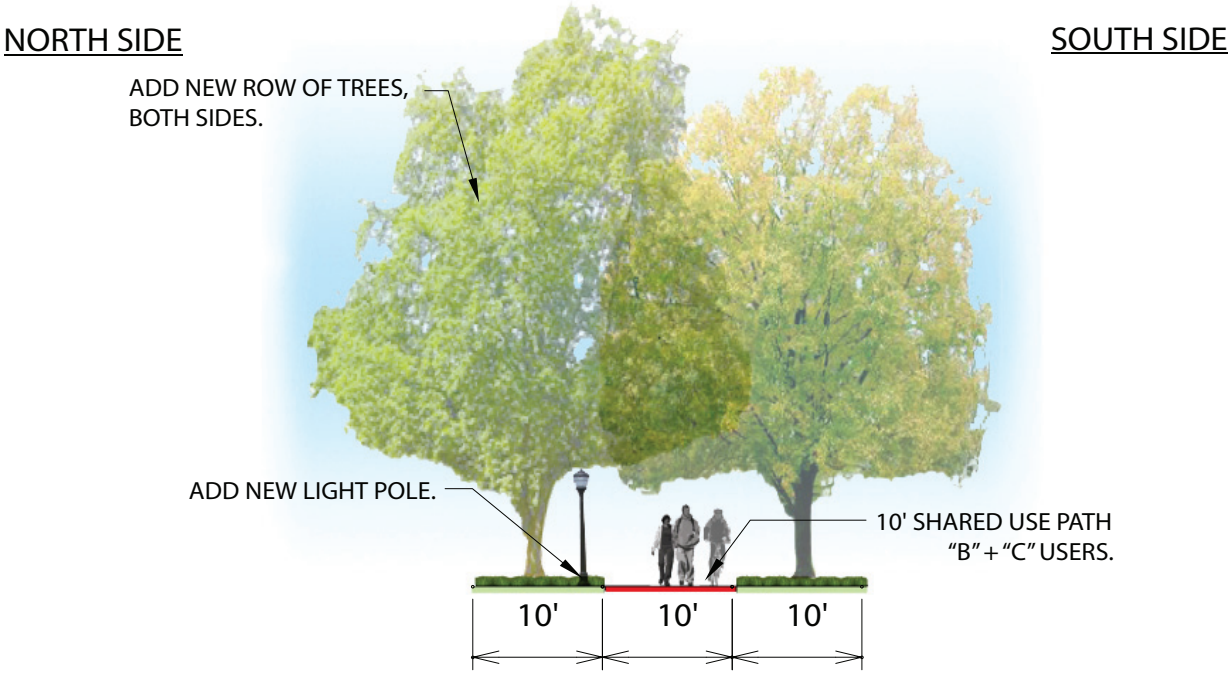


Figure 5-42: The Hub: Zone 2 Industry Road to Algonquin Parkway Prototypical Cross-Section

These service drives should be 18 feet wide to accommodate neighborhood traffic in addition to pedestrian and bicycle traffic. By incorporating these service drives along the entirety of Algonquin Parkway, a hard edge would be delineated that would clearly define public and private property. This clear delineation should reduce the number of private encroachments along the parkway. While parking should not be encouraged on the service drives, the 18-foot width would accommodate short-term parking by residents and guests. The existing five-foot sidewalks on both sides of the parkway should remain but not be maintained. These sidewalks should ultimately be returned to green space.

Zone 4: Rodman Street, Industry Road to Central Avenue: Along the west side of Rodman, it is recommended that an eight-foot shared-use path be constructed. This path would need to be separated from the roadway by a two-foot paved utility strip. Over time, if the utilities in this area are either relocated or buried in place, this two feet of pavement should be incorporated into the shared-use path. Along the east side of the roadway, a five-foot pedestrian sidewalk should be constructed. This sidewalk should be separated from the road by a five-foot planted verge. Some street trees currently exist in this planted verge. Efforts should be made to fill in the gaps in the existing tree canopy. Careful species selection should ensure that future tree growth does not conflict with the overhead utility lines.

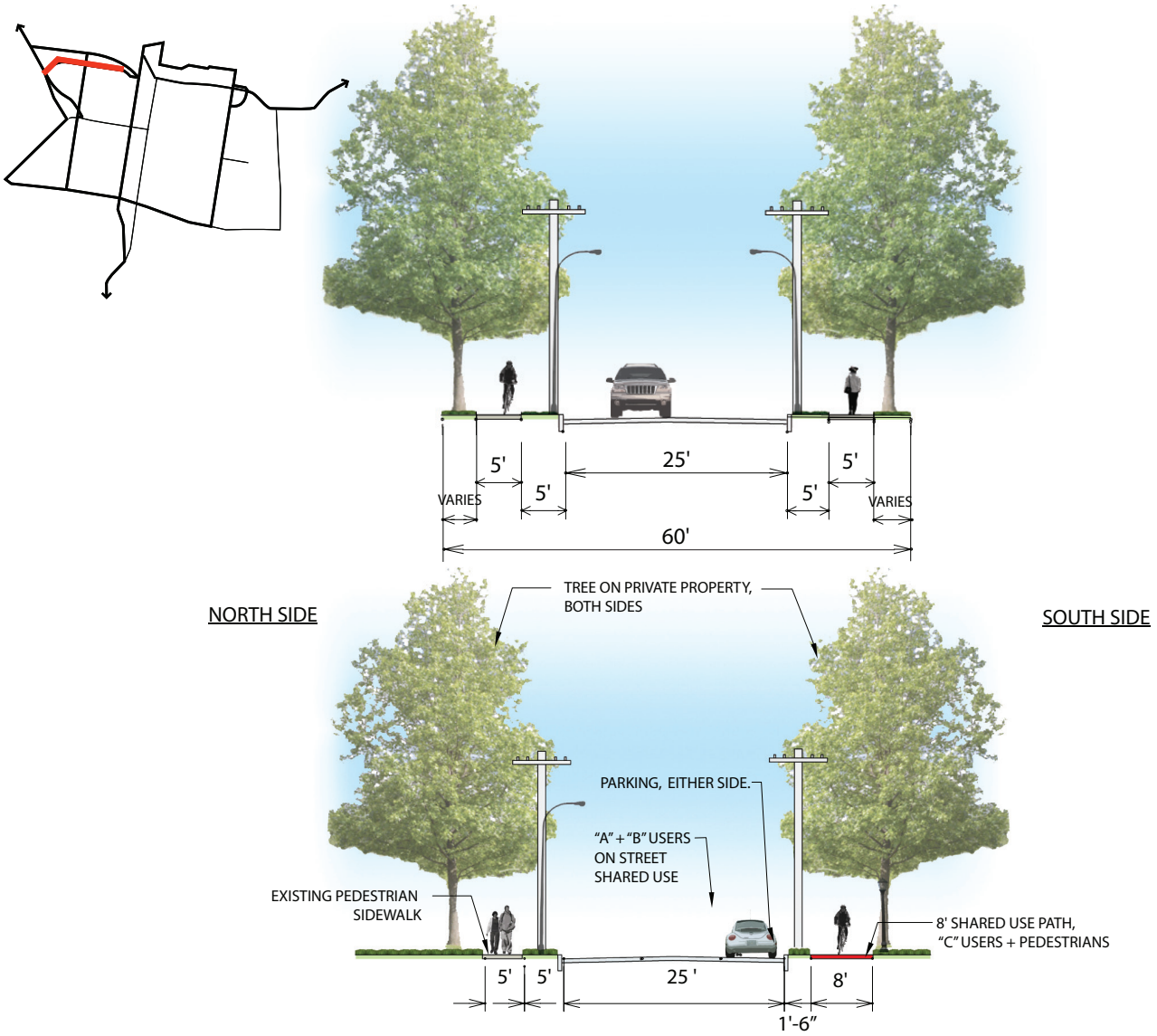


Figure 5-43: The Hub: Zone 2 Colorado Avenue Existing & Proposed Cross-Section

Currently, local parking is permitted along both sides of Rodman Street. Parking prohibition is not recommended due to the residential land uses in this area.

Dedicated bicycle lanes cannot be accommodated along Rodman due to narrow width and the existing parking. Type 'A' and 'B' bicyclists should use shared-use lanes to navigate the on-street route.

Cut through traffic has already been identifed as a concern on Rodman Street. This segment of roadway was not originally designed to handle large truck traffic and efforts should be made to minimize this impact, such as installing a cul-de-sac immediately south of Winkler.

Zone 5: Winkler Avenue, 3rd Street to Taylor Boulevard:
It is recommended that no additional pedestrian or bicycle traffic be routed onto this street. This segment of roadway is highly commercialized near the intersections of 4th Street and 3rd Street, with numerous curb cuts along the roadway. These curb cuts present hazardous conditions for pedestrians and bicyclists due to turning movements of vehicles.

Future efforts should be focused on the application of zoning and landscaping ordinances for the area that would consolidate and eliminate redundant curb cuts while also providing much needed buffer strips between the roadway and adjacent businesses.

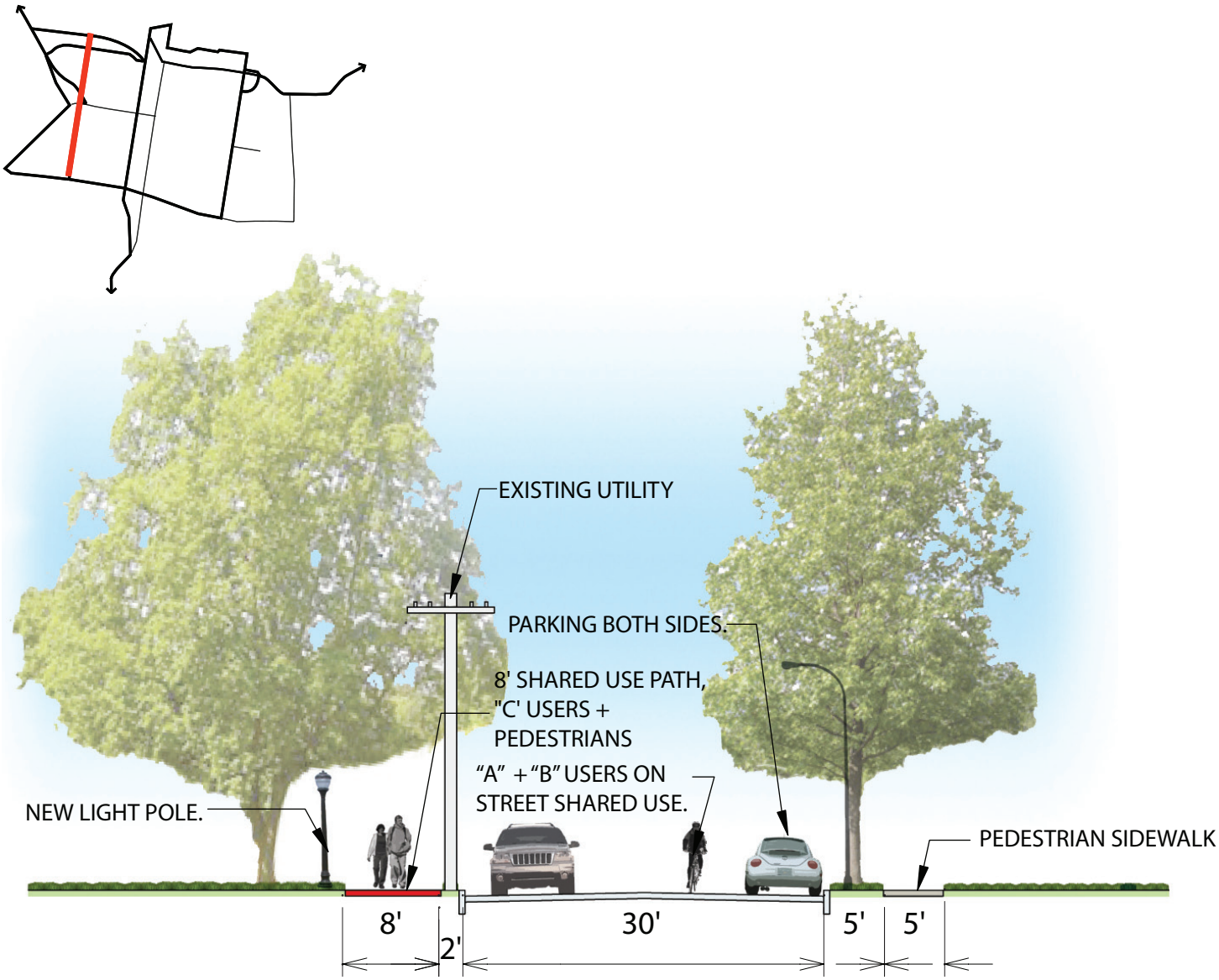


Figure 5-46: The Hub: Zone 4 Rodman Street Prototypical Cross-Section

Figure 5--47: The Hub: Zone 4 Rodman Street Prototypical Illustrative Sketch

Zone 6: Taylor Boulevard, Winkler Avenue to Central Avenue: This section of Taylor Boulevard does not provide a safe atmosphere for pedestrians and cyclists. It is recommended that Taylor Boulevard be treated with a streetscape enhancement application to further enhance the area. The existing pedestrian walks should be maintained, along with the existing tree plantings.

Zone 7: Central Avenue: Taylor Boulevard to Crittenden Drive: Central Avenue plays a large role in the connection of the three parkways. It is recommended that eight-foot shared-use paths be constructed along both sides of Central Avenue beginning at Rodman Street and extending east to 3rd Street. Due to existing right-of-way limitations, the shared-use path should be placed immediately adjacent to the roadway, with additional tree plantings along the outside edge of the right-of-way where room permits. The planted median within this section of Central Avenue would remain intact.

In order to accommodate Type 'A' and 'B' cyclists, the roadway would need to be reconfigured. On both sides of the raised median, two 11.5-foot travel lanes should be provided along with a five-foot dedicated bicycle lane.

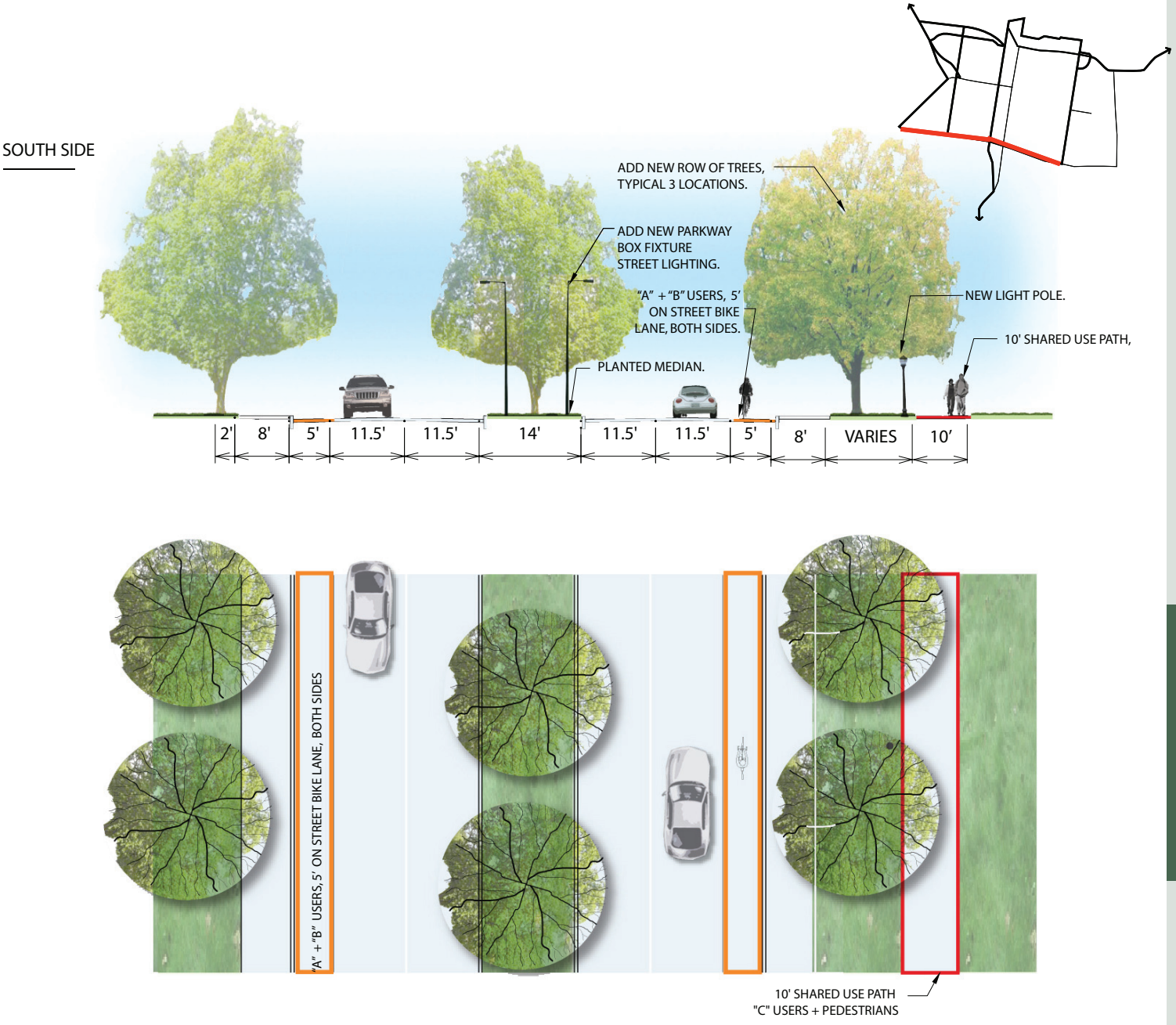


Figure 5-48: The Hub: Zone 7 Central Avenue at Churchill Downs Prototypical Cross-Section

On Central Avenue, the existing ten-foot paths on either side of the road would provide continuous access for both pedestrians and Type 'C' cyclists. By implementing a roadway reconfiguration, Type 'A' and 'B' cyclists should be accommodated on-street by way of five-foot bicycle lanes on the outside of each roadway. Two 11.5-foot travel lanes should be provided on either side.

Efforts should be made to incorporate tree plantings within the raised median, where possible, in order to continue the green ribbon established west of the overpass.
From Floyd Street to Crittenden Drive it is recommended that ten-foot shared-use paths be constructed along either side of the road.

Also, in order to continue the green ribbon established elsewhere along Central Avenue, efforts should be made to replace or introduce new tree plantings along the outside edge of right of way.

To accommodate Type 'A' and 'B' cyclists this segment of roadway should also be reconfigured. This segment differs, however, because the raised median becomes a central turning lane. This 14-foot turning lane would remain, and two 11.5-foot travel lanes would be provided along with a five-foot dedicated bicycle lane on either side.

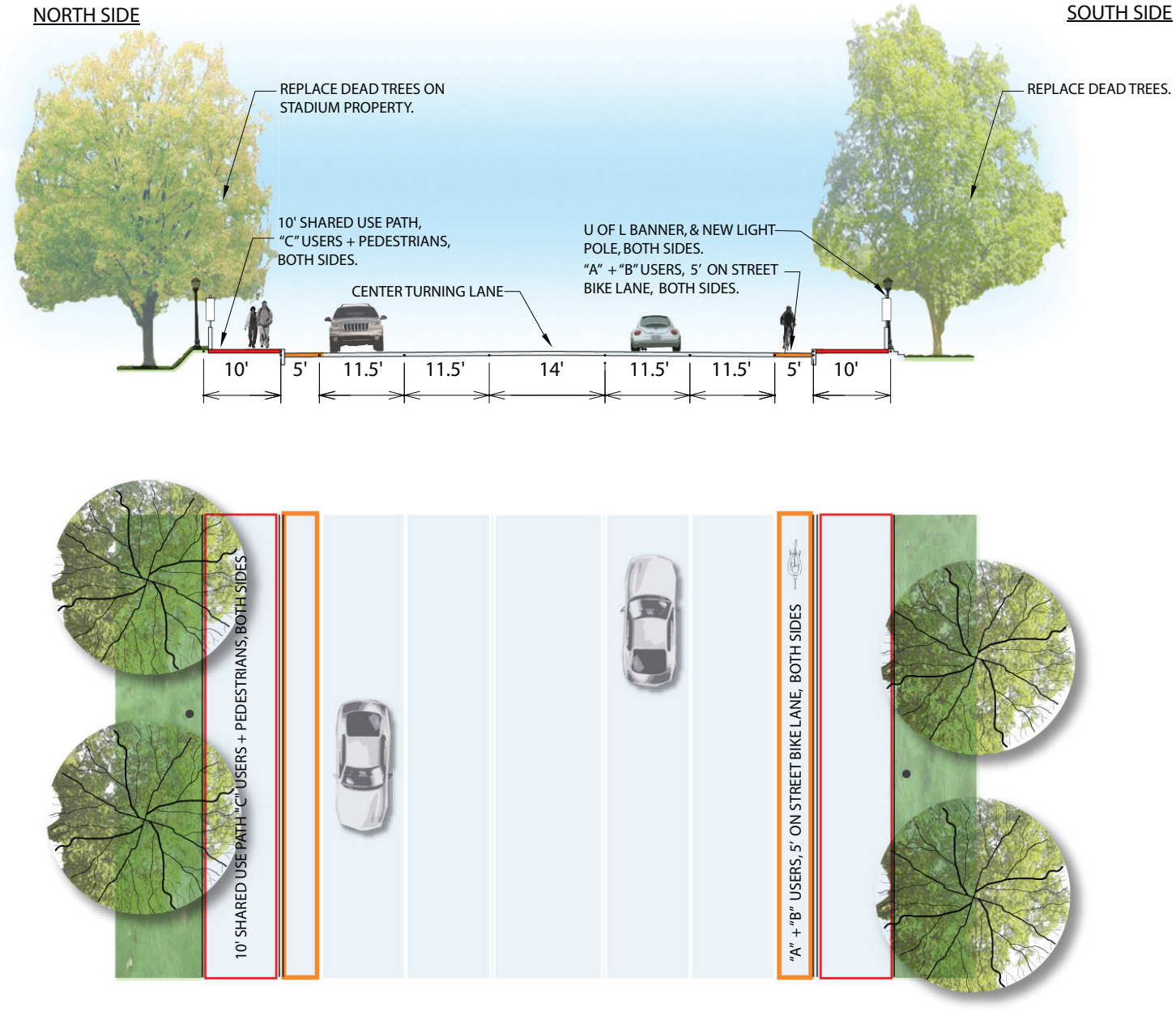


Figure 5-49: The Hub: Zone 7 Central Avenue at Floyd Street Prototypical Cross-Section

Figure 5-50: The Hub: Zone 7 Central Avenue "Before and After" Illustrative Sketch

Zone 8: Floyd Street, Warnock Street to Central Avenue:
This segment of Floyd Street is a key link in the connection of Eastern Parkway and Southern Parkway, and any improvements will require participation by the University of Louisville. The roadway configuration should remain the same and will accommodate Type 'A' and 'B' bicyclists by utilizing shared-use lanes.

Pedestrians and Type 'C' cyclists should be accommodated by an eight-foot shared-use path along the west side of Floyd Street. This shared-use path would be separated from the roadway by a five-foot planted utility strip. Along the east side of Floyd Street a seven-foot pedestrian sidewalk should be constructed to abut the adjacent buildings in the area. This sidewalk should be separated from the roadway by a five-foot planted verge.

In order to further enhance the streetscape quality of Floyd Street, it is recommended that a row of trees be added, where possible, along the east side of the roadway. Street tree plantings should also be encouraged along the west side of Floyd Street. Currently there are sporadic plantings located along the stadium property. These plantings should be reinforced and encouraged throughout the area. If additional tree plantings are desired along the west side of the roadway, the existing overhead utility lines will need to be removed or buried.

Efforts should be made to utilize zoning ordinances to control building setbacks, access points, and buffer plantings to further enhance the area.

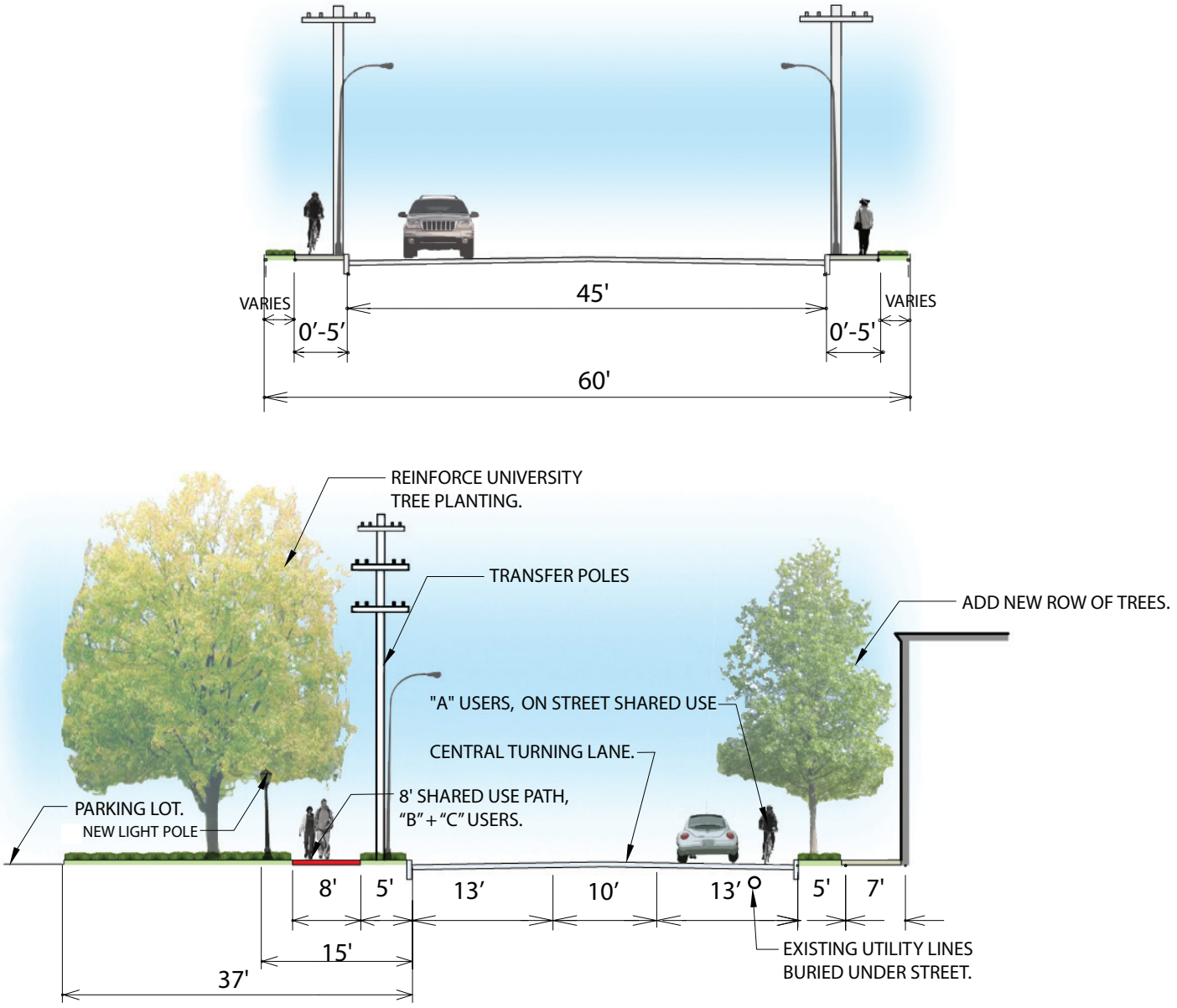


Figure 5-51: The Hub: Zone 8 Floyd Street Prototypical Cross-Section

Figure 5-52: The Hub: Zone 8 Floyd Street "Before and After" Illustrative Sketch

Zone 9: Crittenden Drive, Eastern Parkway to Central Avenue:
Crittenden Drive is a four-lane roadway that provides a direct connection to Interstate 65. While the roadway character changes from one side of the interstate to the other, neither segment provides for an appropriate pedestrian scale due to wide lanes, adjacent land uses, and ramps to Interstate 65. Because of this, it is recommended that additional pedestrian and bicycle traffic not be routed onto Crittenden Drive.

In any case, additional street tree plantings should be added to enhance the corridor, and the existing sidewalks north of the interstate should be maintained to provide links between the roadway and the adjacent residential land uses.

Zone 10: University of Louisville and Eastern Parkway, 3rd Street to Crittenden Drive:
Within this segment, the University of Louisville and the Kentucky Transportation Cabinet have recently reconstructed Eastern Parkway at 3rd Street. It includes a ten-foot sidewalk on both sides of Eastern Parkway. The sidewalk is separated from the roadway with a railing. Due to slope differences, portions of the sidewalks are slightly above the roadway elevation. A planted median with railing barrier was also constructed to discourage pedestrians from crossing Eastern Parkway at non-designated areas.

Zone 11: 3rd Street, Stansbury Park to Wayside Park:
This segment of 3rd Street is a prominent north-south route through the Hub and provides for a direct connection between Eastern Parkway and Southern Parkway. This direct connection and the existing 100-foot right-of-way make it a prime candidate for the introduction of the shared-use path.

Along the entirety of 3rd Street, an 8 to 15-foot shared-use path should be constructed along the west side of the road. This path should be separated from the roadway by an 8 to 10-foot planted verge. Along the east side, an eight-foot pedestrian path is recommended. This sidewalk should also be separated from the roadway by an 8 to 10-foot planted verge. In order to accommodate street tree plantings, the existing overhead utility lines should be relocated or buried.

While 3rd Street is ideal for pedestrians, and Type 'C' cyclists, the existing traffic loads in the area make it hazardous for on-street bicycle traffic. On street bicycle traffic should be routed to paralleling streets identified previously in this section.

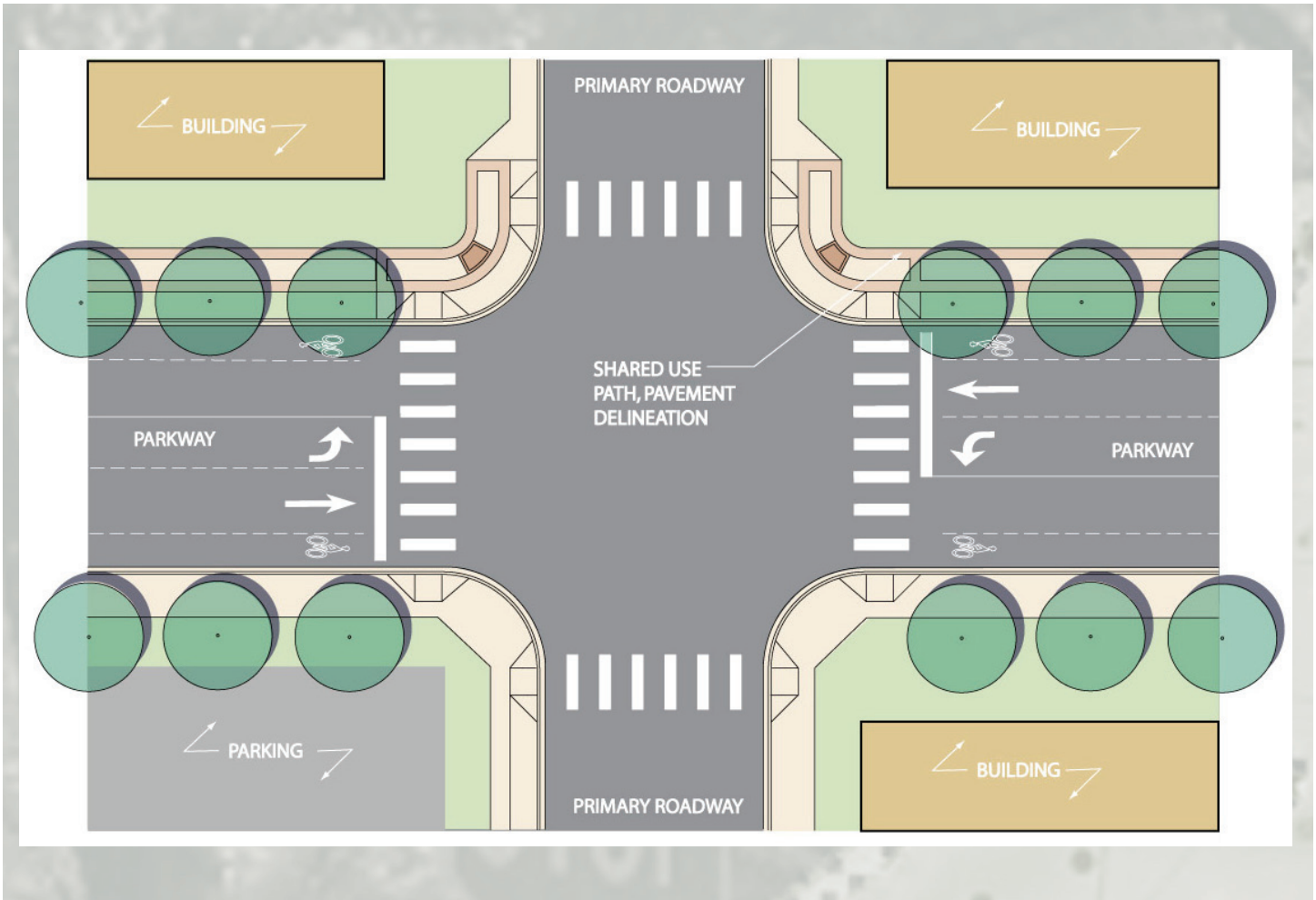


Figure 5-53: The Hub: Prototypical Intersection Plan for accommodation of the Shared-use Path

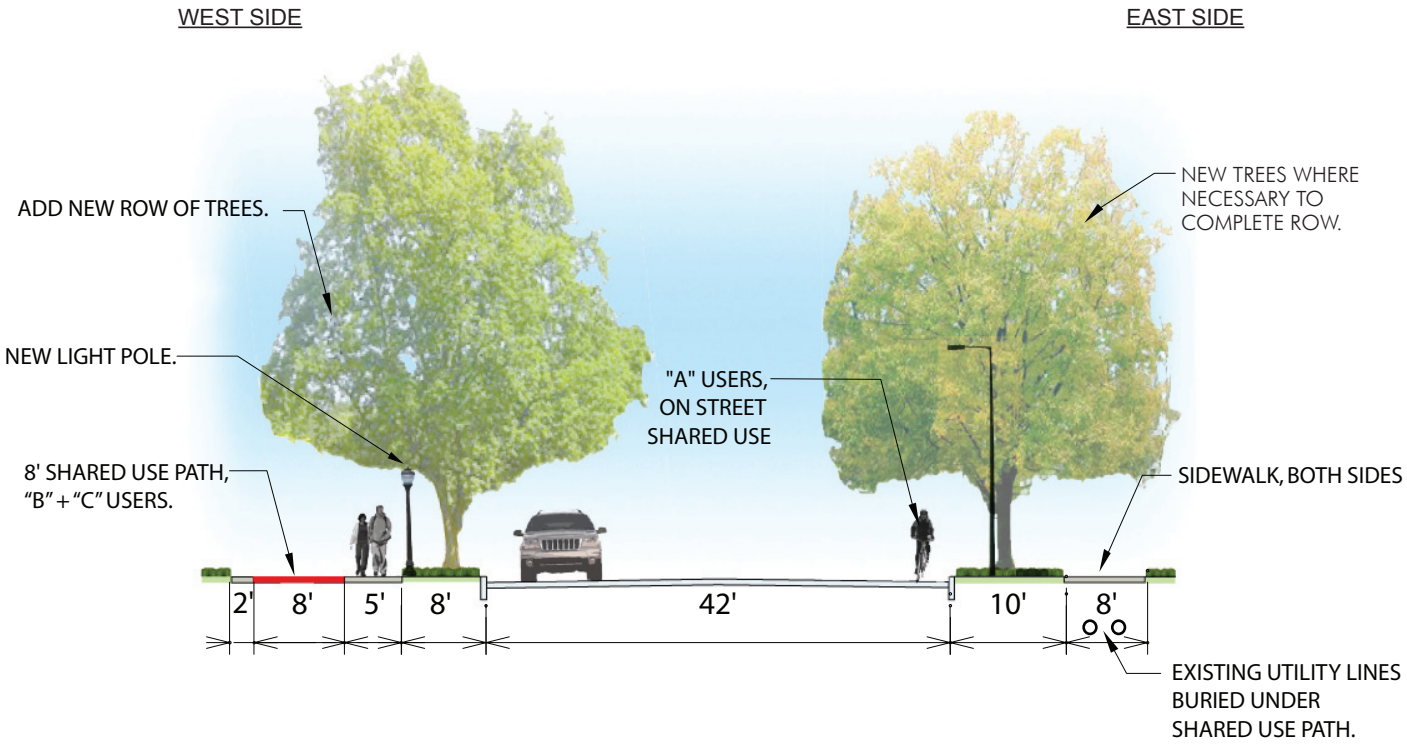


Figure 5-44: The Hub: Zone 11 3rd Street - Eastern Parkway to Central Avenue

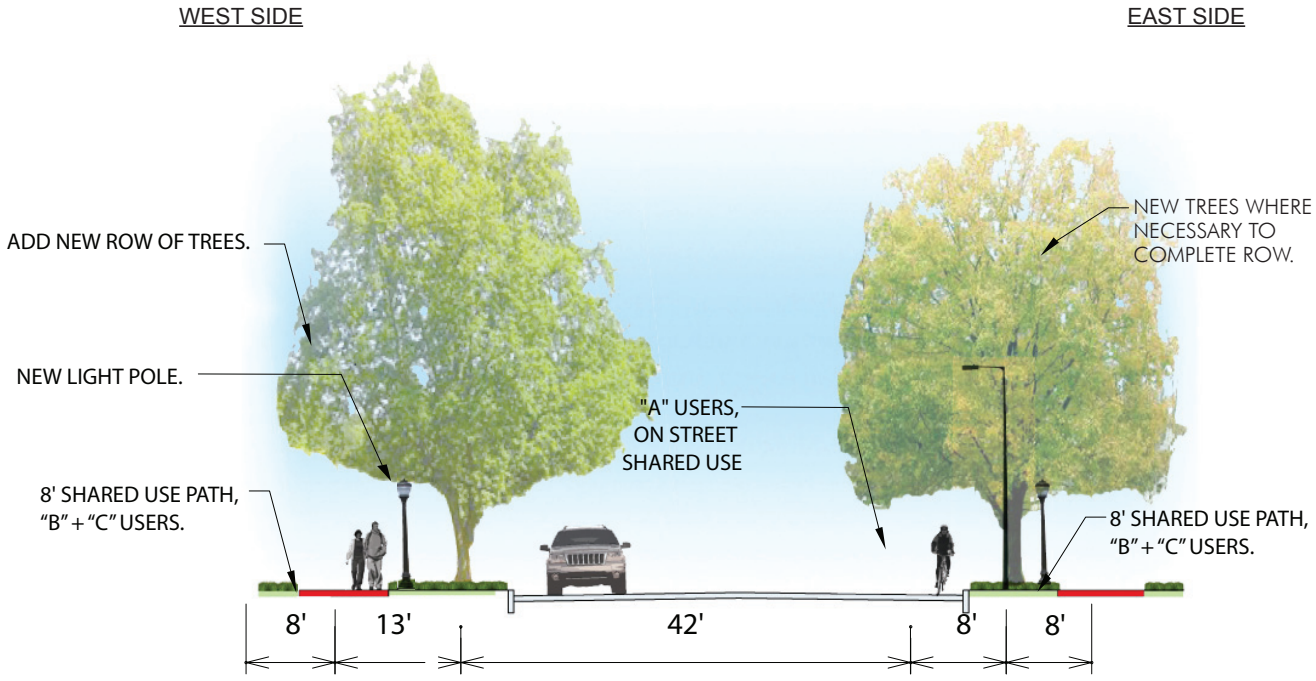
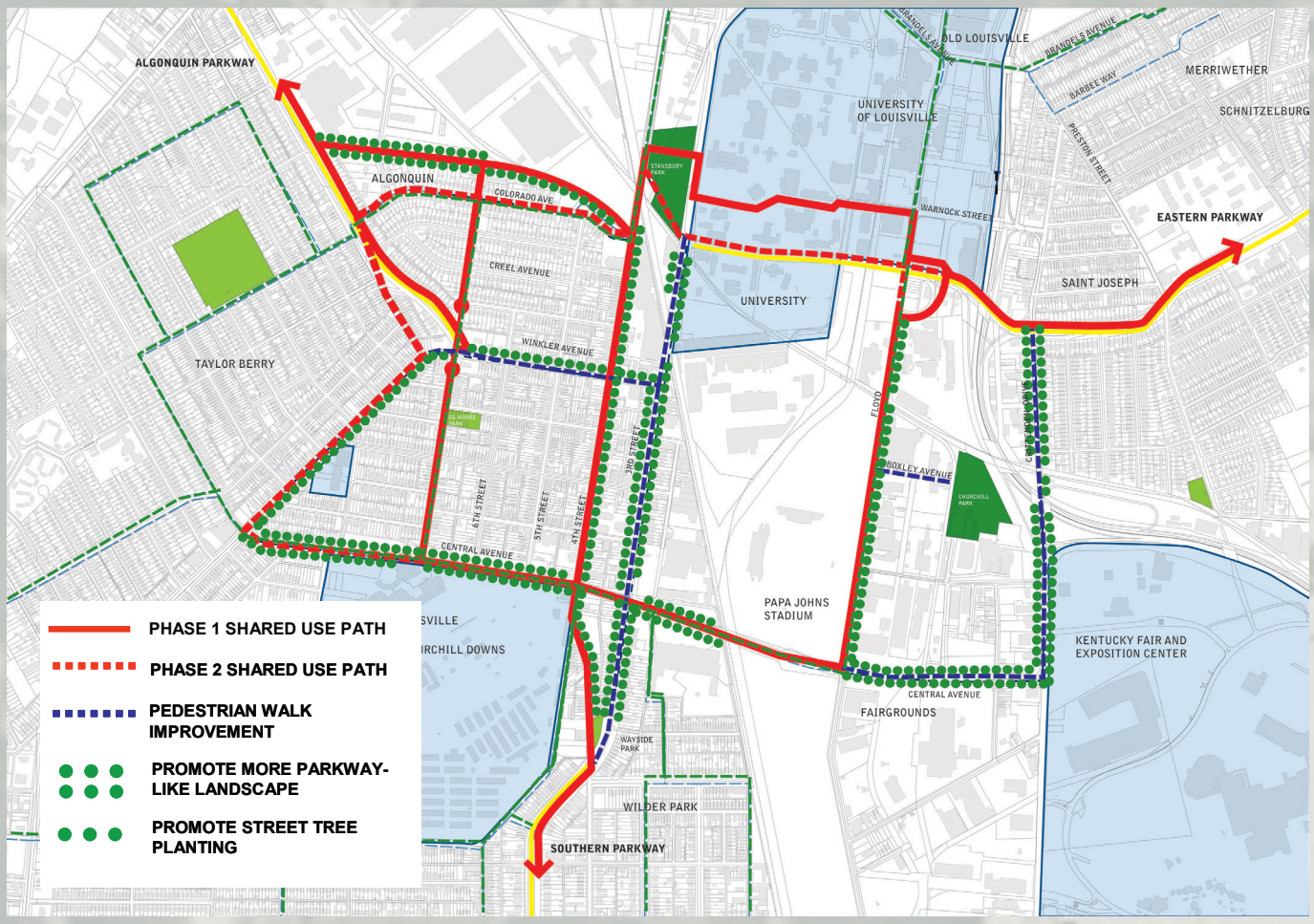


Figure 5-45: The Hub: Zone 11 3rd Street - Central Avenue to Wayside Park



The Hub

Figure 5-54: The Hub Connections

Figure 5-54: *Connection opportunities throughout the Hub area.*

A loop system with specific parkway-to-parkway connections has been developed for this area that includes major on-street bicycle connections, shared-use path development, pedestrian streetscape improvements, and parkway character plantings.

Parkway Recommendations:
Typical Parkway Details

Typical Details

A standard set of details are proposed for a variety of elements that are consistent on all the parkways and the Hub Elements and details illustrated here include the following:

- Typical Intersection Corner Treatment
- Typical Plan for Parkway/Service Drive Return Connection
- Typical Plan for Shared-Use Path Between Service Drive
- "Road Diet" Illustrative Examples
- Pedestrian Amenities:
  - Bench
  - Trash Receptacle
  - Accessible Fountain with Pet Fountain
  - Bicycle Rack
  - Light Fixtures
- Recommended Bus Shelter (TARC Standard)
- Examples of Signage System
  - Existing Signage System in Olmsted Parks
  - Examples of MUTCD Signage
  - Examples of Bikeway Guide Signs
  - Examples of Existing Embedded Signgage
- Materials:
  - Low Mow/ No Mow Grass
  - Paving Materials

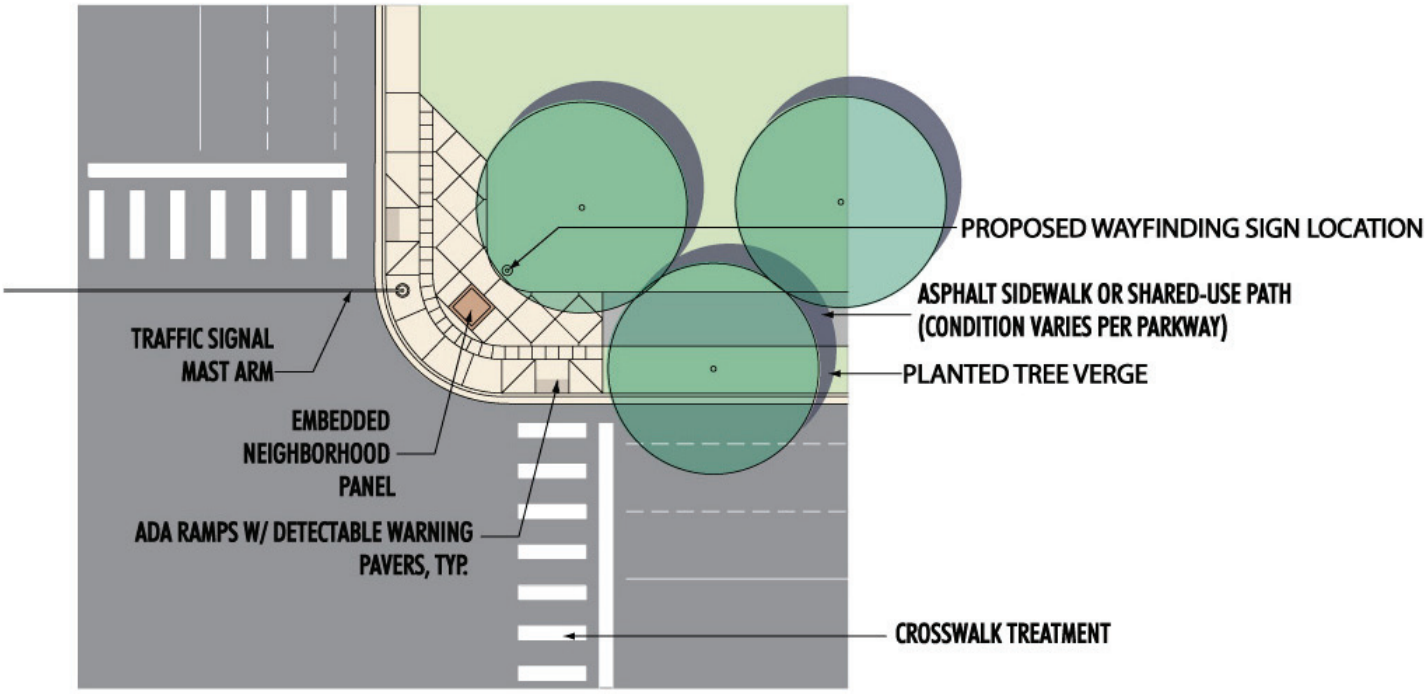


Figure 5-55: Typical Intersection Corner Treatment Plan

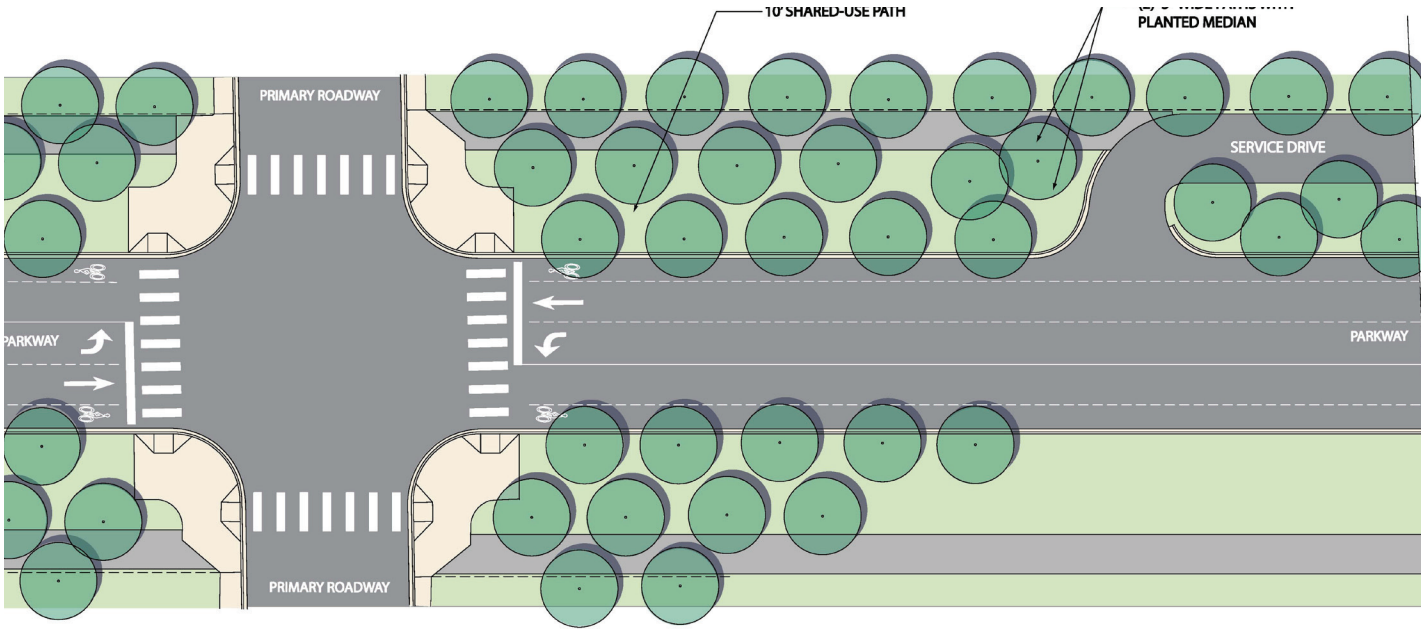


Figure 5-56: *Typical Plan for Parkway/Service Drive Return Connection*

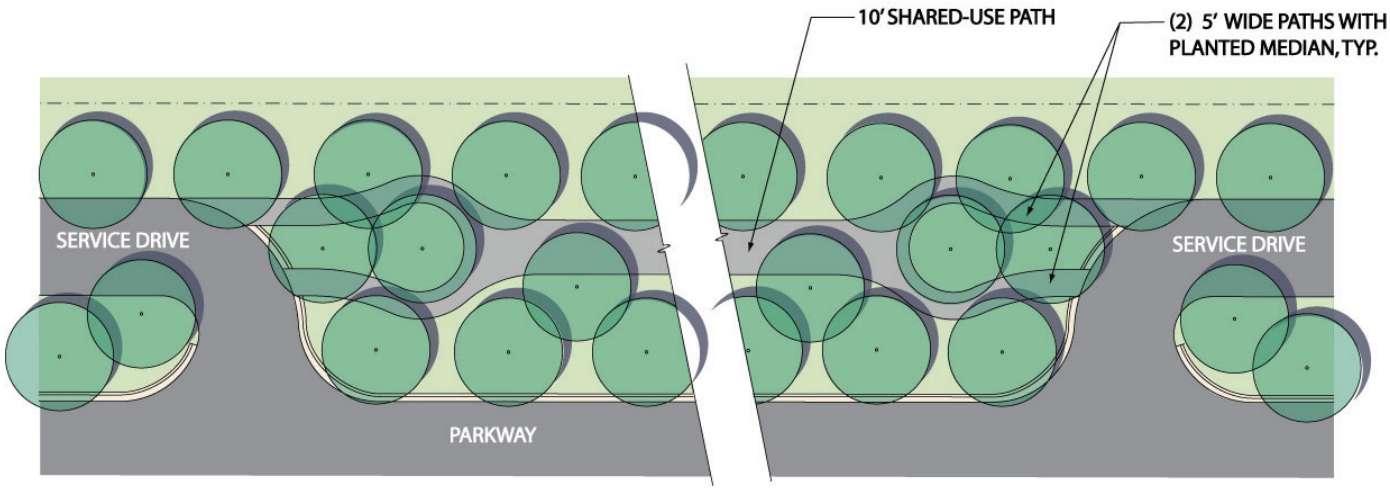


Figure 5-57: Typical Plan for Shared-use Path Between Service Drives

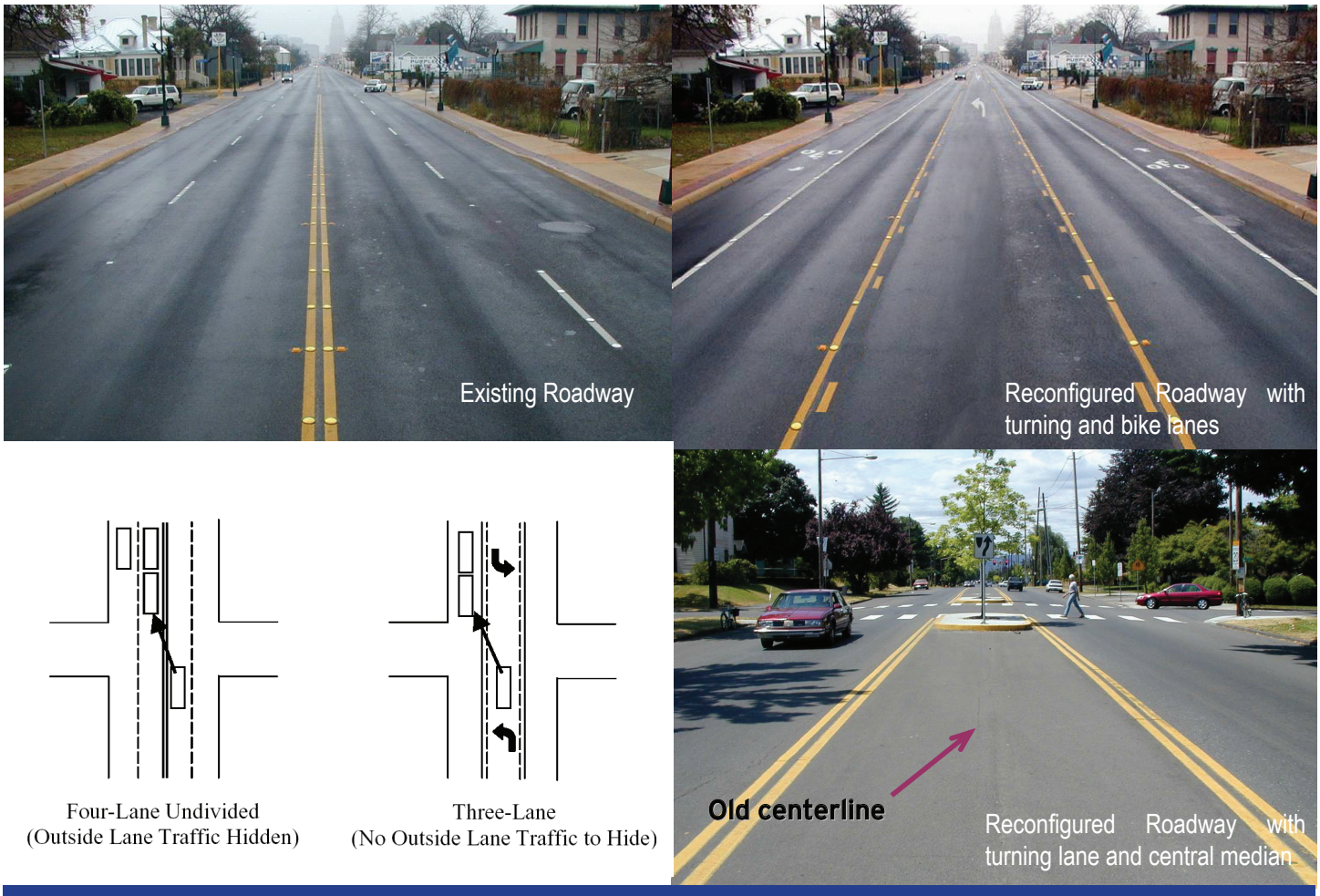
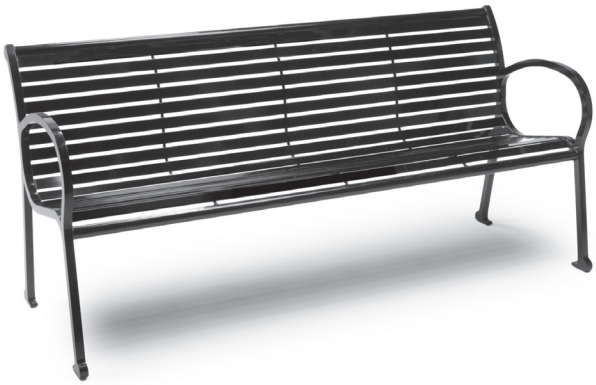


Figure 5-58: *Typical "Road Diet" Illustrations*



BENCH:
Manufacturer: Landscape Forms
Model: SC3005-BS-72
Color: Stormcloud

Figure 5-59: Typical Pedestrian Amenity: Bench

TRASH RECEPTACLE
Manufacturer: Landscape Forms
Model: SC5002-24-33
Color: Stormcloud

Figure 5-60: Typical Pedestrian Amenity: Trash Receptacle

ACCESSIBLE FOUNTAIN
WITH PET FOUNTAIN:
Manufacturer: Murdock Fountains
Model: M-76-1-AVAF
Color: Forest Green or Black

ACCESSIBLE FOUNTAIN
WITH PET FOUNTAIN:
Manufacturer: Canterbury International
Model: NYC Type "E"
Color: Forest Green or Black

Figure 5-61: Typical Pedestrian Amenity: Accessible Fountain with Pet Fountain

BICYCLE RACK: Portland Bike Rack
Manufacturer: Creative Pipe, Inc.
Model: WU 20-F-P Inverted "U"
Finish & Color: Polyester powder coat finish, black

Figure 5-62: Typical Pedestrian Amenity: Bicycle Rack

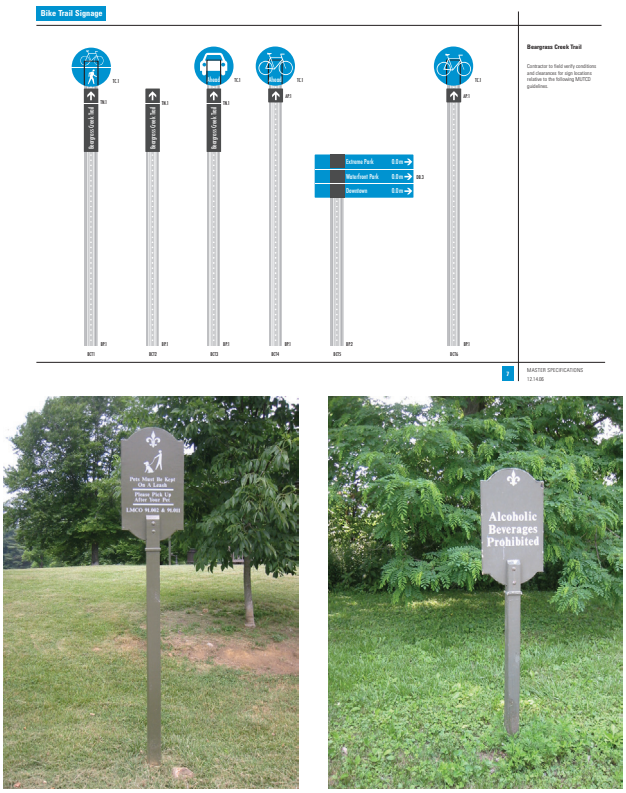
LIGHT FIXTURES:
Cut-off HADCO Fixture, energy efficient
Manufacturer: HADCO Lighting
Model: Louisville Metro Olmsted Fixture; Type V Wide Refractive Globe (R54) (with optional housings)

www.hadco.com
800.331.3185

Figure 5-63: Typical Pedestrian Amenity: Light Fixtures

BUS SHELTERS
Recommended Bus Shelter is the existing TARC Standard. Bus Shelters are locations for possible interpretive signage.

Figure 5-64: Typical Pedestrian Amenity: Bus Shelters

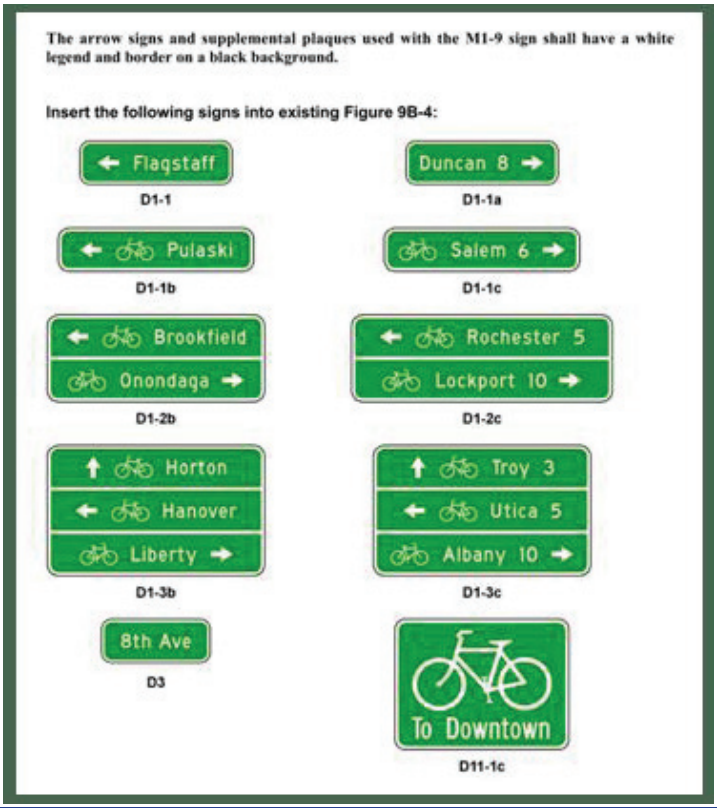


SIGNAGE: EXISTING SYSTEM IN OLMSTED PARKS

Figure 5-65: Typical Pedestrian Amenity: Existing Signage System in Olmsted Parks

SIGNAGE: MUTCD SIGNAGE
Examples of MUTCD signage that can be adapted to each city.

Figure 5-66: Typical Pedestrian Amenity: Examples of MUTCD Signage System



SIGNAGE: BIKEWAY GUIDE
These sign systems illustrate examples of bike guide signs that have been approved for the next edition of the MUTCD.

Figure 5-67: Typical Pedestrian Amenity: Example of MUTCD Sign System

SIGNAGE: EMBEDDED
This signage example illustrates existing embedded signage.

Figure 5-68: Typical Pedestrian Amenity: Examples of Embedded Signage

MATERIALS: LOW MOW / NO MOW GRASS

- Environmentally triendly
- Drought tolerant
- No fertilizers or chemicals required
- Less vulnerable to grubs
- Grows in full sun, part shade and deep shade
- Reduces mowing time or eliminates all mowing

Figure 5-69: Typical Pedestrian Amenity: Materials - Low Mow / No Mow Grass (Turf)

MATERIALS: PAVING

Recommendation: Use porous asphalt for pilot shared-use path projects first to see how well it performs and how well it is maintained before applying to all parkways.

Figure 5-70: Typical Pedestrian Amenity: Examples of Porous Asphalt

MATERIALS: PAVING IN HUB
Materials in the Hub should clearly identify the route. Examples would include concrete path with brick edging or asphalt path with exposed aggregate edging.

Figure 5--70 Typical Pedestrian Amenity: Materials in the Hub should clearly identify the route

These amenities - simple and functional - reflect the basic qualities of the historic Olmsted character.

Parkway Recommendations:
Design Summary

Project Snapshot

It's more than just a path.
The shared-use pathway system includes:

- 21.5 miles of shared-use paths
- 37.5 miles of on-street bike lanes
- 6.5 miles of new service drives
- 3.5 miles of improved existing service drives
- 3 miles of pedestrian walk improvements
- 18.75 miles of new or improved curb and drainage improvements
- 130 safer intersections for all users
- 3,500 new trees
- 0 parking spaces lost

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