



MONTGOMERY COUNTY LIFE SCIENCES CENTER

LOOP TRAIL

DESIGN GUIDELINES

DRAFT 07/10/15

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INTRODUCTION

THE VISION

The Montgomery County Life Sciences Center (LSC) Loop Trail will serve as a major multi-use connector, organizing element and placemaking feature for the emerging Life Sciences Center district. Much more than a standard shared use path, the LSC Loop Trail will function as an identifiable public amenity that helps make the Life Sciences Center an attractive place to live, work and visit. The trail will incorporate distinctive design elements—special paving, furniture, landscaping, art, signage and stormwater management features—as well as public amenity/park spaces adjacent to the trail route. By connecting major employers, residences, open spaces, schools, transit stations and other destinations, the LSC Loop Trail will play an important role in reducing reliance on automobiles as a transportation mode and will help foster the healthy living philosophy of the Life Sciences Center.

LSC LOOP TRAIL DESIGN GUIDELINES

The concept for the 3.5-mile LSC Loop Trail was funded by a Transportation / Land-Use Connections (TLC) grant from the Metropolitan Washington Council of Governments to the Montgomery County Planning Department. A central feature of Great Seneca Science Corridor Master Plan, the LSC Loop Trail also constitutes a major staging requirement for advancing implementation of the Master Plan and must be fully

funded prior to opening Stage 2 of Master Plan Development.

The typical LSC Loop Trail cross-section includes a 12-foot-wide shared use path with planted buffers on both sides of the trail, with a 10-foot-wide shared use path in the most constrained trail segments. The trail will function as a recognizable placemaking element through the incorporation of distinctive paving treatments, a cohesive family of furnishings and signage, street trees and other plantings, low-impact development (LID) features and public art elements. Public amenity spaces—including areas for seating and other activities—are incorporated along the trail. In addition, special design treatments are recommended for major nodes, gateways and urban activity areas. The concept envisions that a potential separated bike lane will complement the trail, per the County's ongoing Bicycle Master Plan. The LSC Loop Trail will serve as a County model for multi-modal design, as well as an important connection in the County's non-motorized transportation system.

The Loop Trail design guidelines establish a framework to guide subsequent design and engineering. It is anticipated that the next phase of design will address engineering considerations and additional design details.



EXISTING CONDITIONS

EXISTING CONDITIONS PLAN



DISCOVERLY DRIVE
(North of Diamondback Drive)



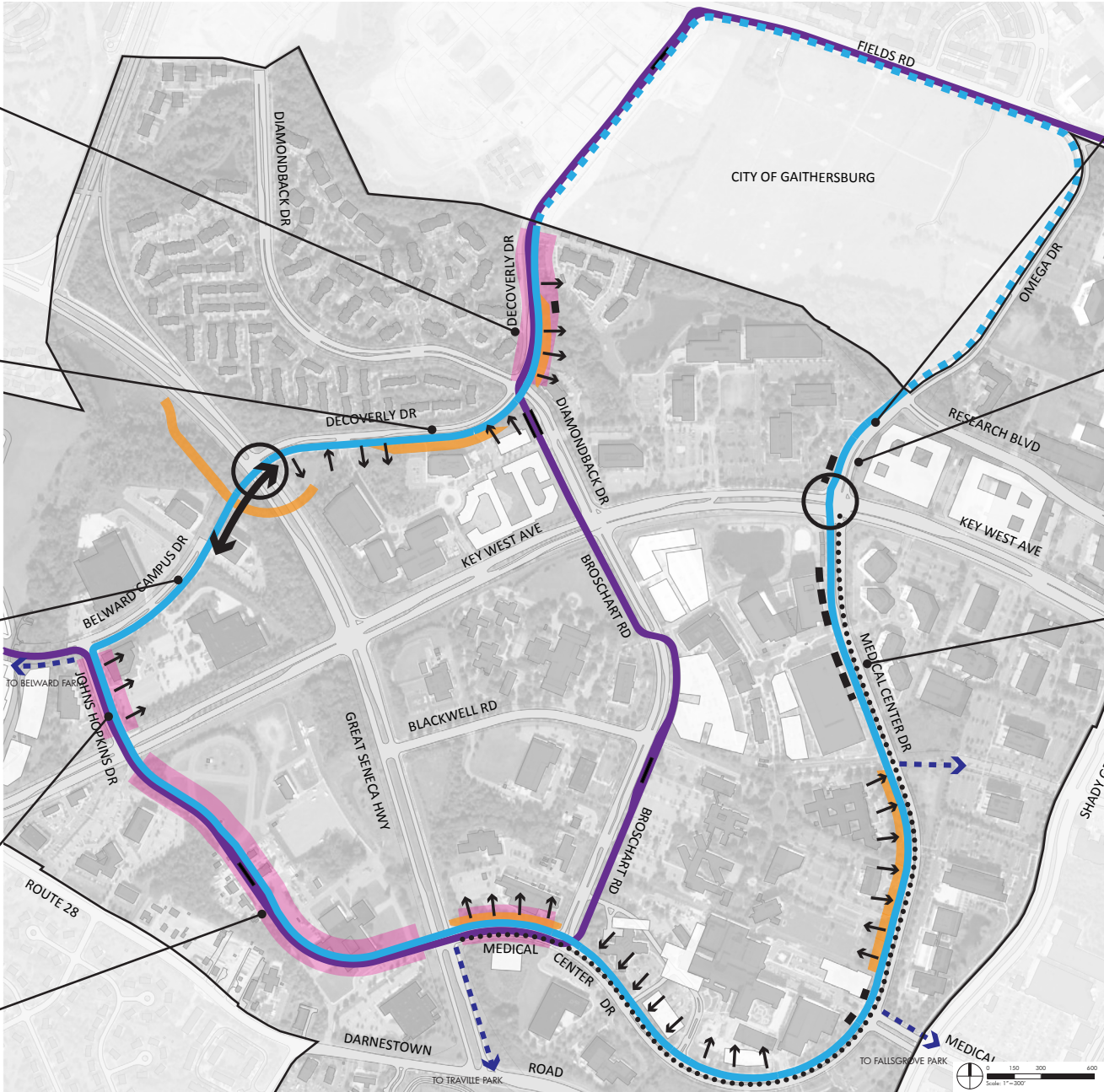
DISCOVERLY DRIVE
(South of Diamondback Drive)



BELWARD CAMPUS DRIVE



JOHNS HOPKINS DRIVE
PSTA PROPERTY: NEW ROAD



OMEGA DRIVE
(Northern Segment)

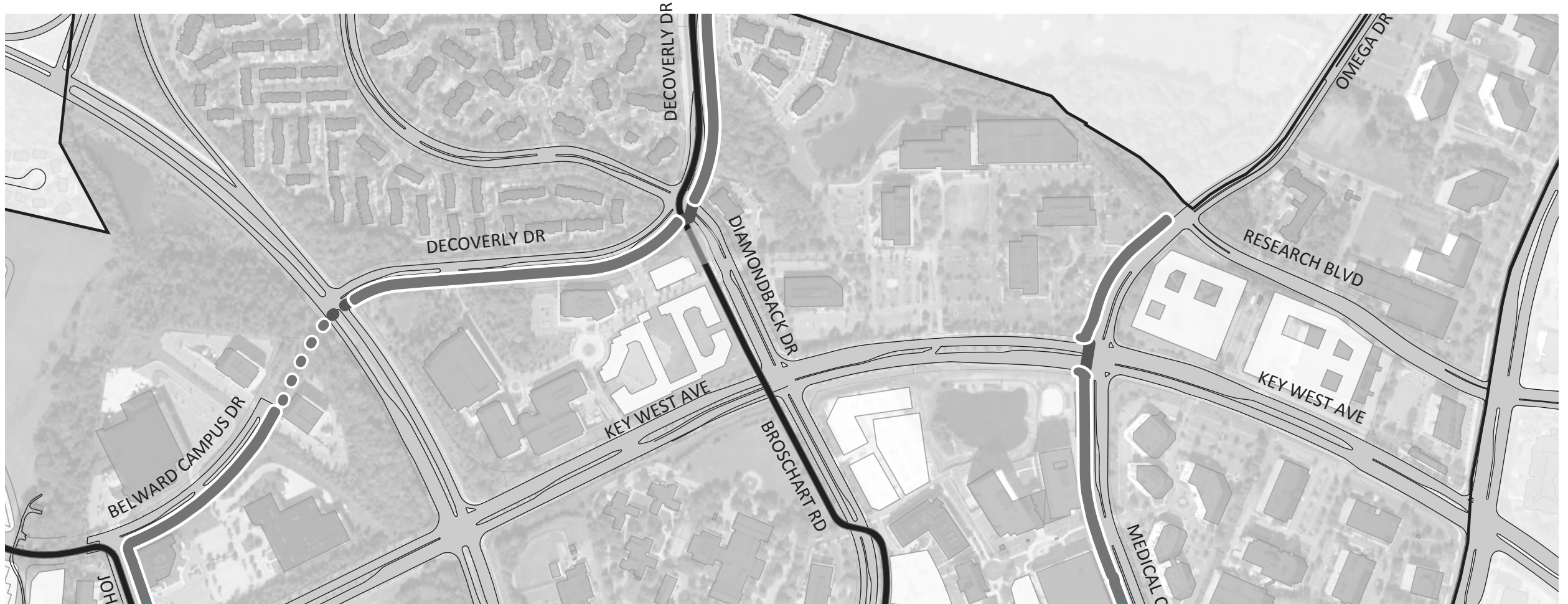


OMEGA DRIVE
(Southern Segment)



MEDICAL CENTER DRIVE

- Potential Loop Trail
 - Future CCT
 - Future CCT station
 - CCT/Roadway Reconstruction
 - Possible Loop Extension
- Existing Conditions Analysis**
- Transit Easement
 - Slope at Inner Edge
 - Mature Trees
 - Structure
 - Missing Connection
 - Major Road Crossing



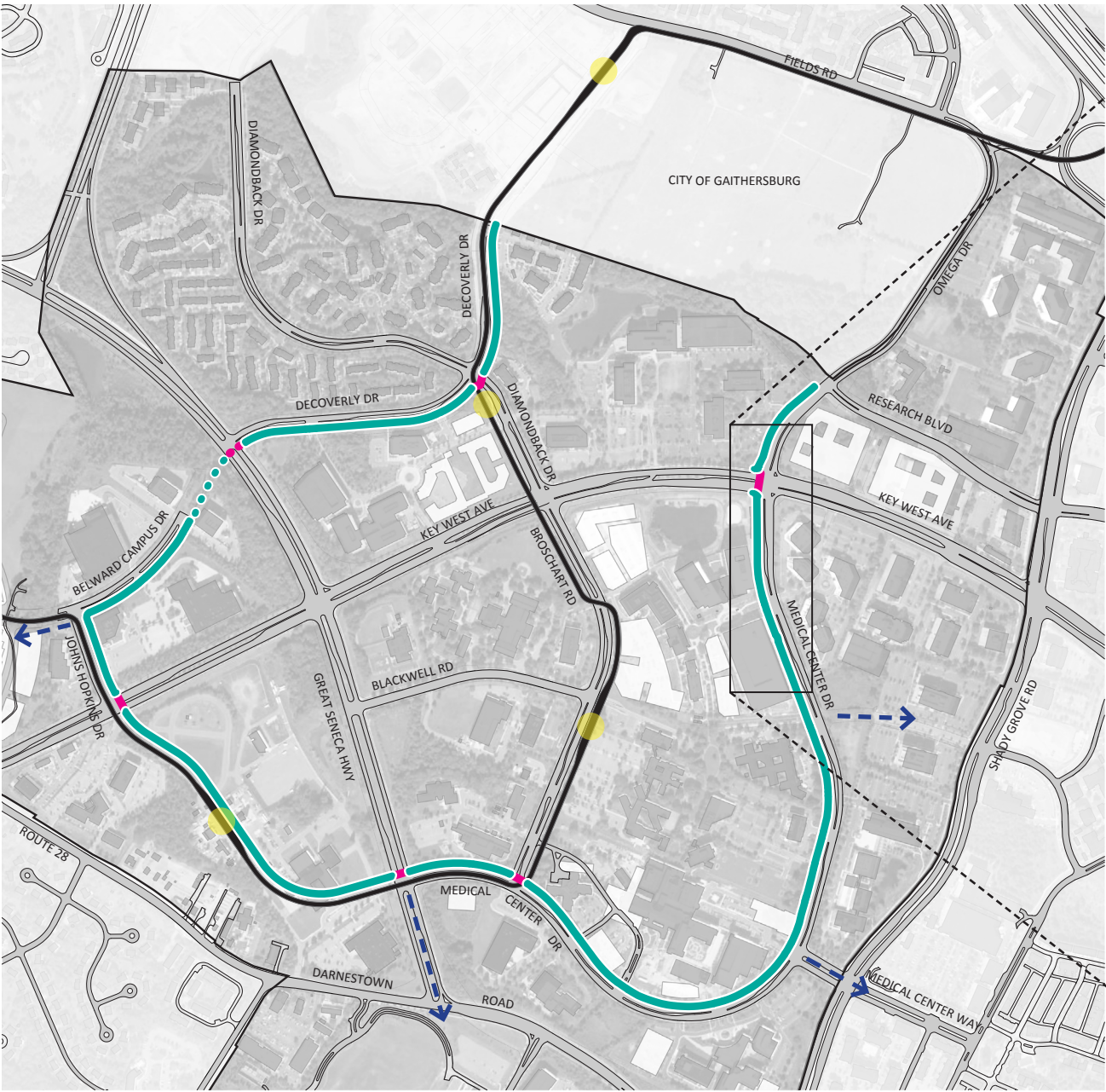
OVERALL PLAN

OVERALL PLAN

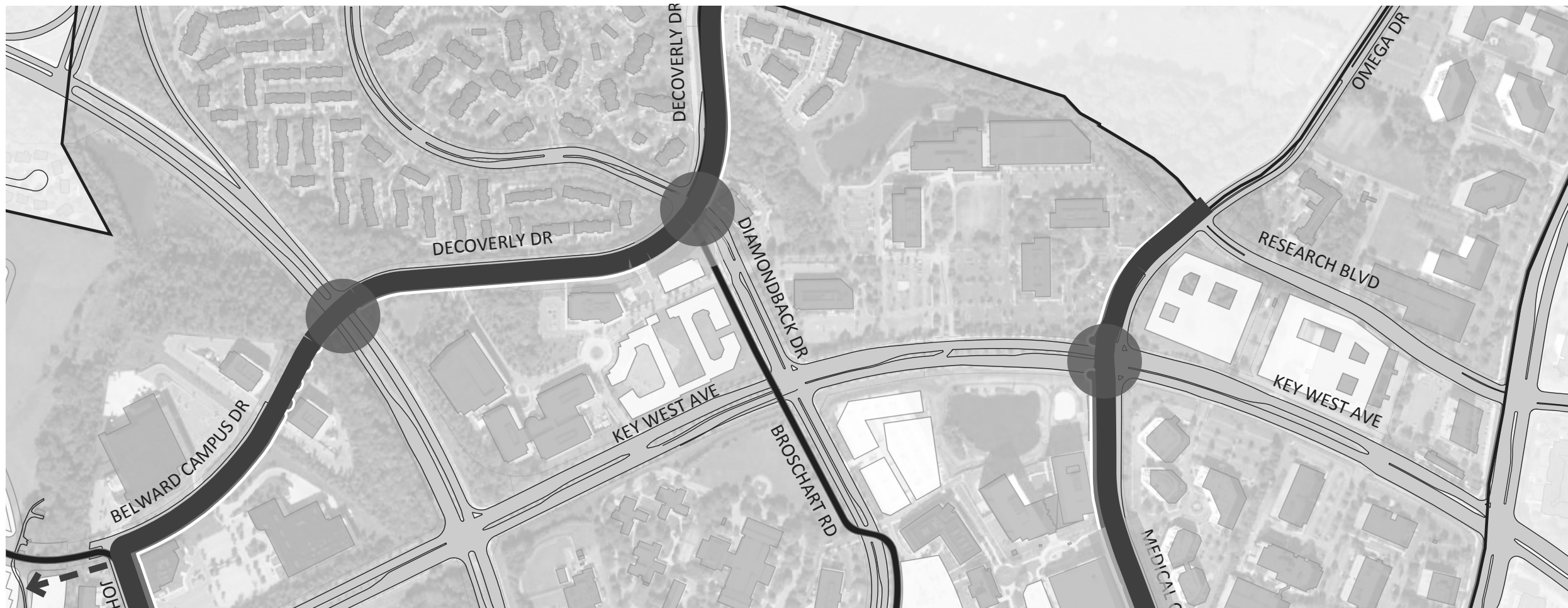
- The trail is positioned on the inside of the LSC Loop.
- Typical trail cross section includes a paved shared use path with planted buffers on each side.
- The trail is located outside of existing curblines except where the roadway is to be realigned as part of CCT construction or future development.
- Enhanced street crossings are recommended for all intersections.
- Potential trail spurs should connect to routes and destinations beyond the LSC Loop Trail.

LEGEND

-  Loop Trail
-  Crossings
-  Potential Trail Spurs
-  Future CCT
-  Future CCT Station



Typical Plan Enlargement



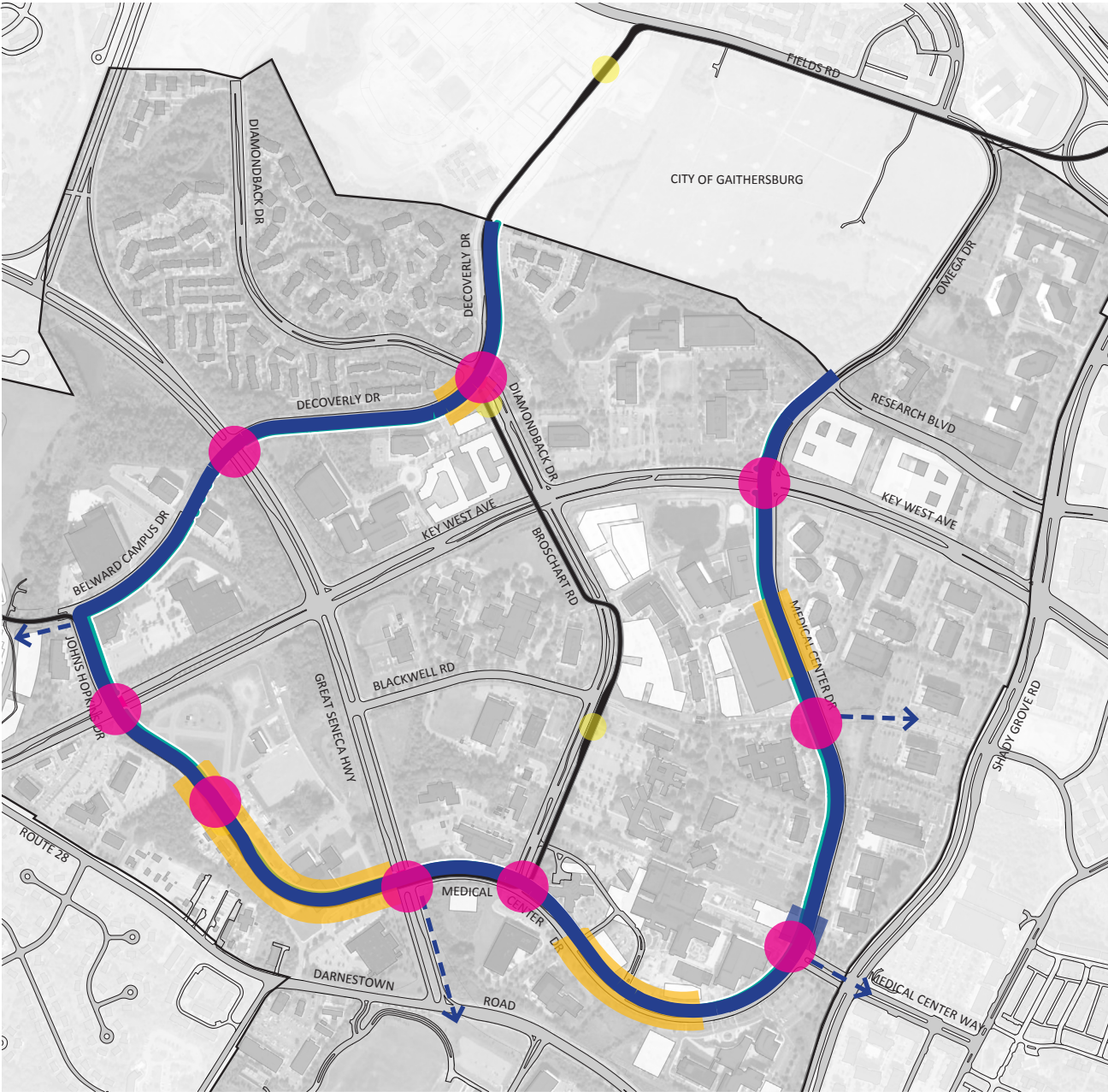
AMENITIES & ENHANCEMENTS

AMENITIES & ENHANCEMENTS PLAN

- Enhancements along the Loop Trail include a distinctive paving treatment; a continuous line of street trees (preserved or planted in all possible locations); seating areas along the trail; signage/wayfinding elements; and public art in select locations.
- Urban/Activity Areas should incorporate special paving and furnishings, larger gathering areas, enhanced plantings, and public art elements.
- Gateways can use art pieces and informational signage to emphasize entry into new areas and direct users to their destinations.

LEGEND

- Distinctive Trail Treatment
- Urban/Activity Areas
- Gateways
- ➡ Recommended Trail Spurs
- Future CCT

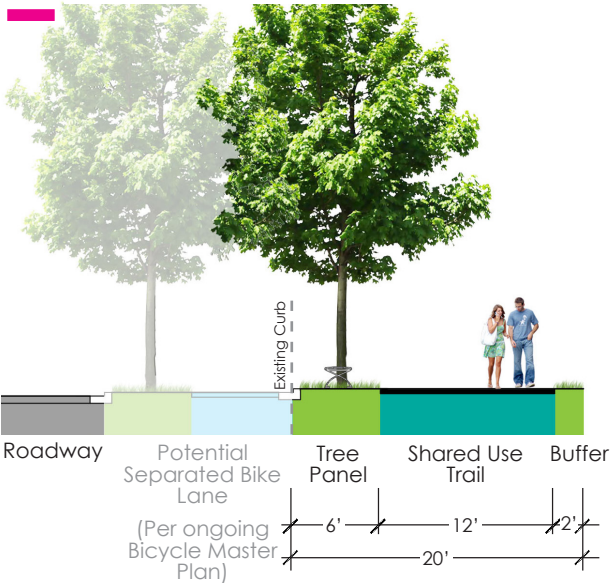




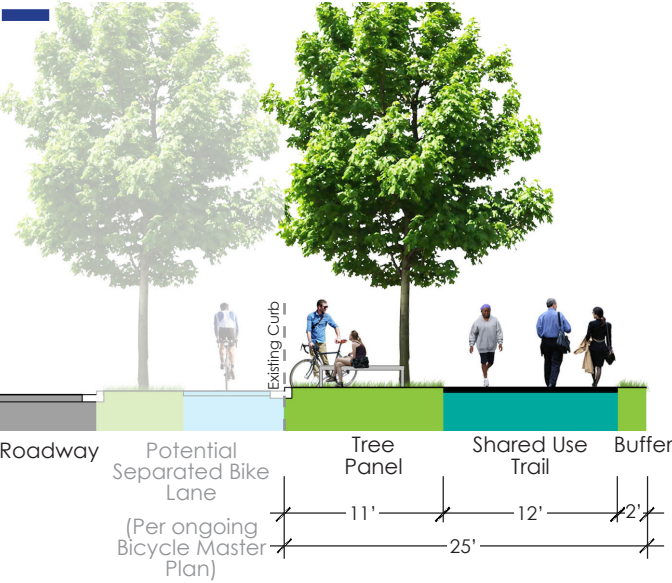
TRAIL CROSS SECTION

CROSS SECTION TYPES

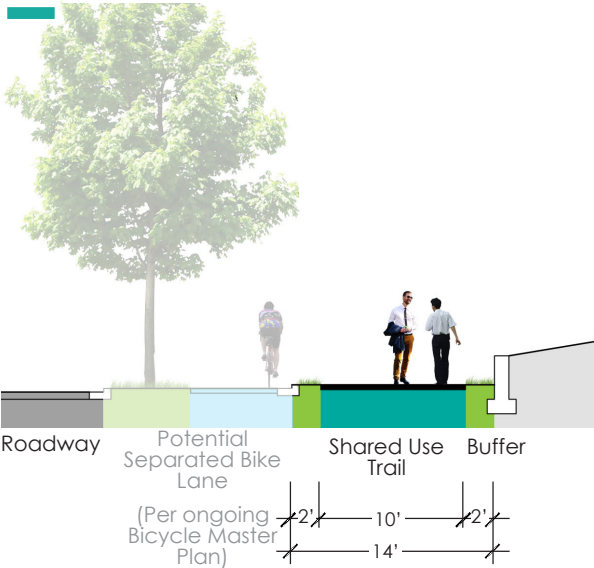
1 TYPICAL CROSS SECTION



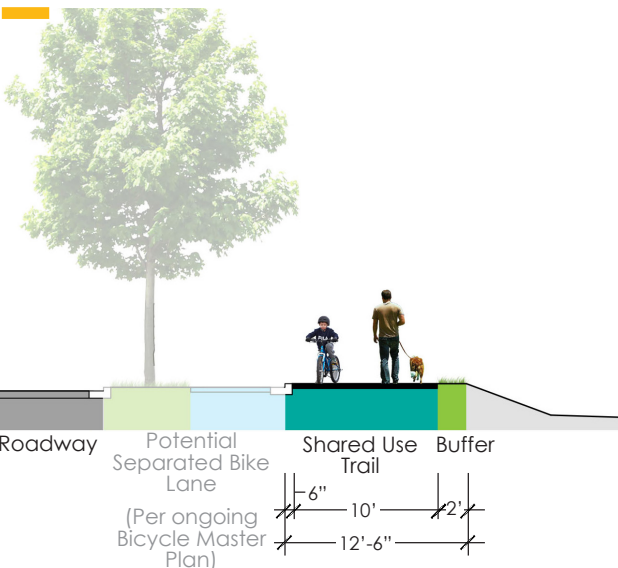
2 WIDE TREE PANEL



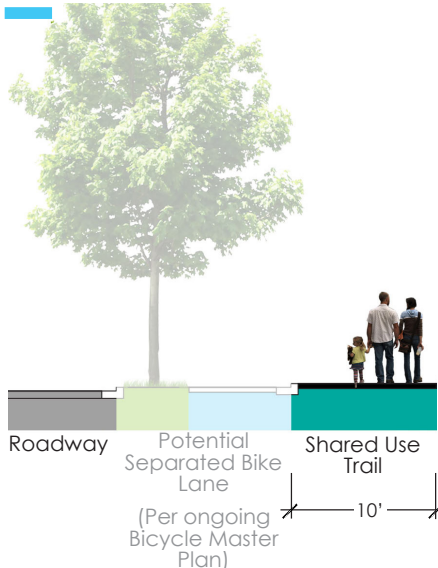
3 10' TRAIL: TYPE A



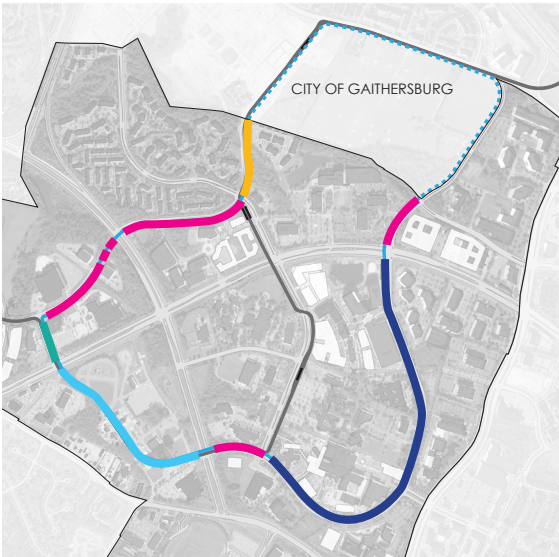
4 10' TRAIL: TYPE B



5 10' TRAIL: TYPE C



- 1 Typical cross section design should be used in all areas where feasible.
 - 2 A wider tree panel is required on Medical Center Drive to preserve existing trees and create safe clear zones for path users.
 - 3 Spatial constraints along the planned Corridor Cities Transitway (CCT) allow for a narrow planted buffer only or 4 a grade separation only between the Loop Trail and a potential separated bike lane (per ongoing Montgomery County Bicycle Master Plan).
 - 5 Right-of-way width on the Medical Center Drive Extension (PSTA property) allows for a grade separation only between the Loop Trail and a potential separated bike lane.
- Additional tree panels may be included in the design of a potential separated bike lane.



Key Plan



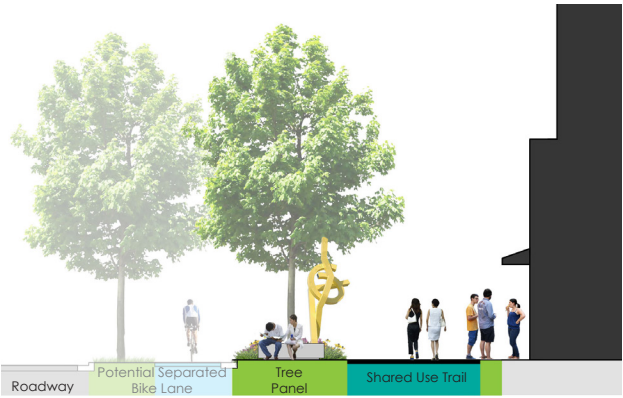
CHARACTER AREAS

URBAN/ACTIVITY AREAS

- Urban/Activity Areas include more intensive land uses near transit stops or where building entrances are located close to the trail edge.



Plazas and outdoor seating along trail (outside of right-of-way)

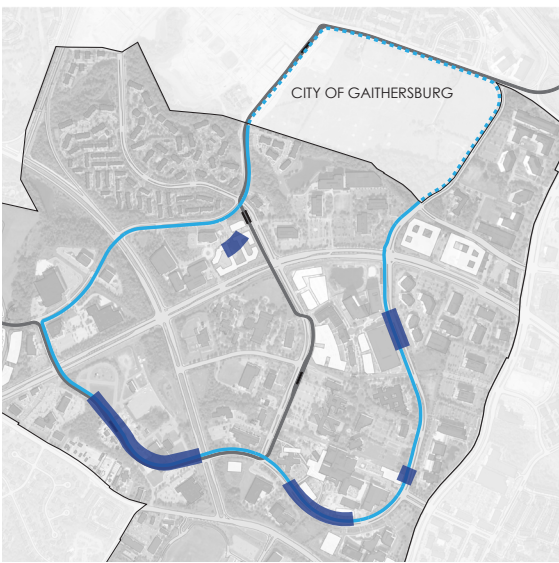


Furnishings and public art in tree panel

Note: Trail cross section may differ from conditions shown above.



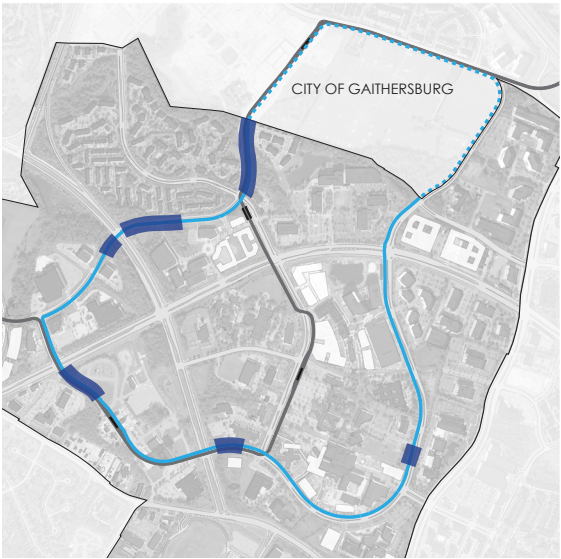
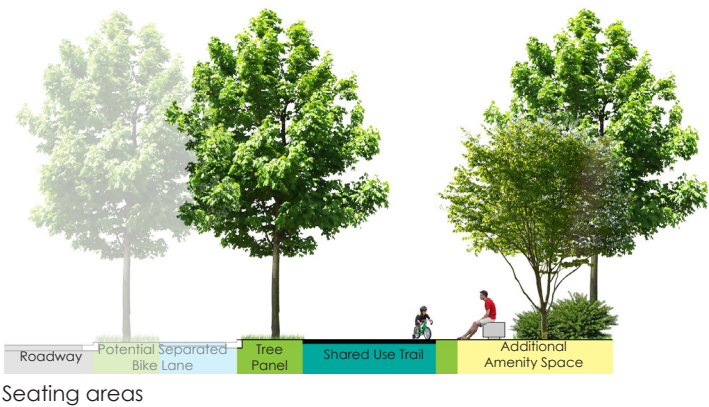
Precedent Images



Key Plan

OPEN SPACE/NATURAL AREAS

- Open Space/Natural Areas include undeveloped vegetated zones, parks, and school yards.



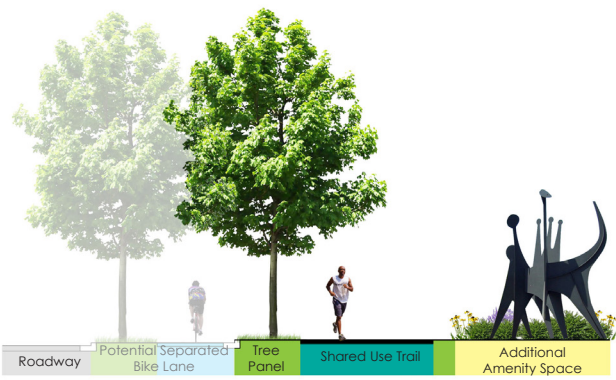
Note: Trail cross section may differ from conditions shown above.

Precedent Images

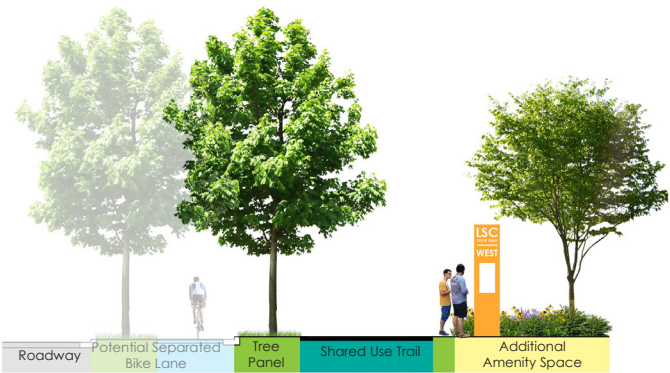
Key Plan

GATEWAYS

- Gateways refer to major intersections, transit nodes, and entrances into private campuses or office parks.



Public art, vibrant plantings, and informational signage at major intersections

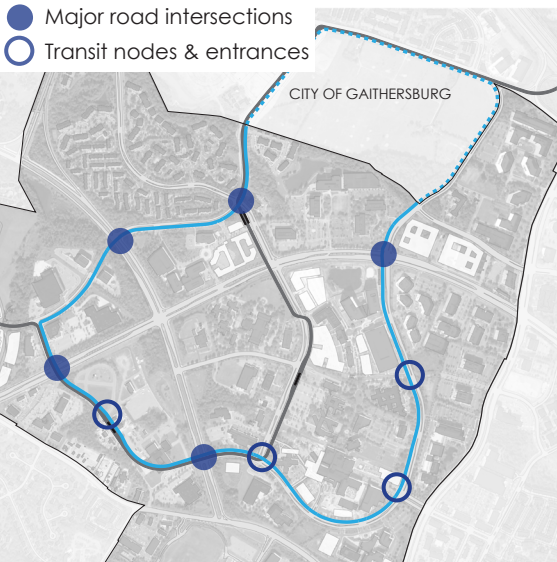


Plantings and informational signage at transit nodes and entrances

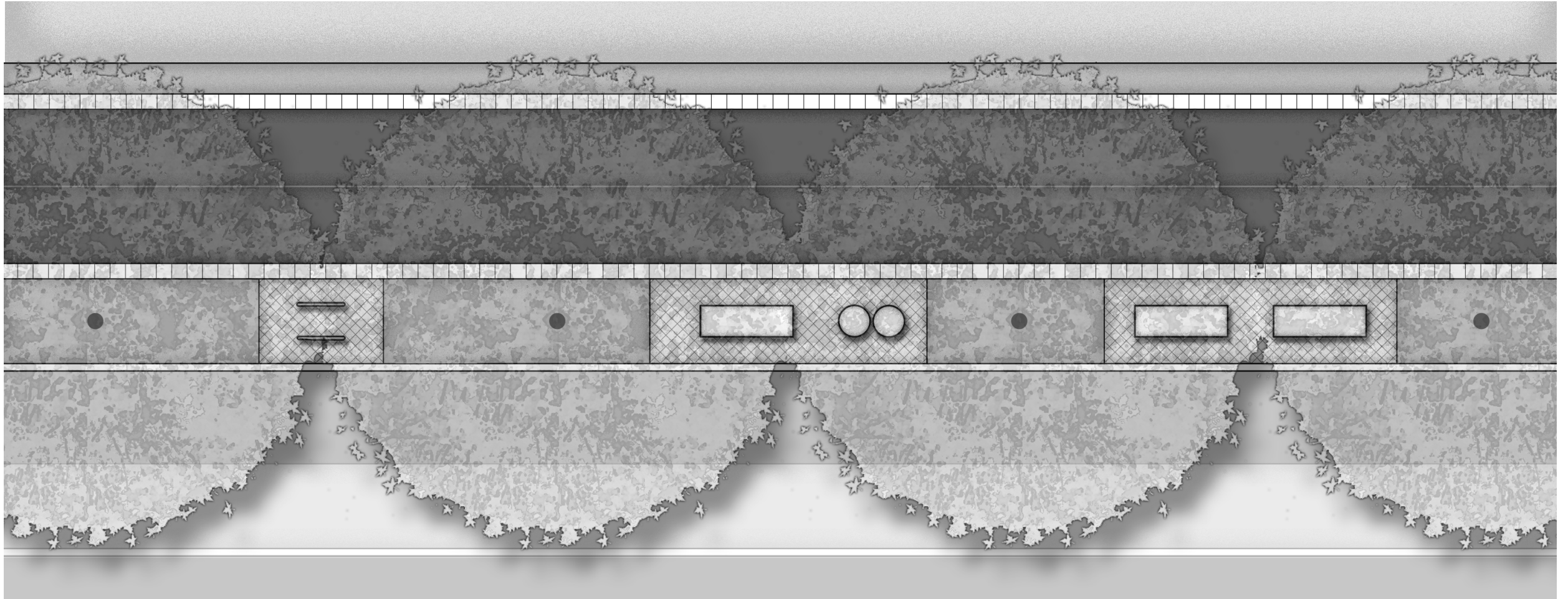
Note: Trail cross section may differ from conditions shown above.



Precedent Images

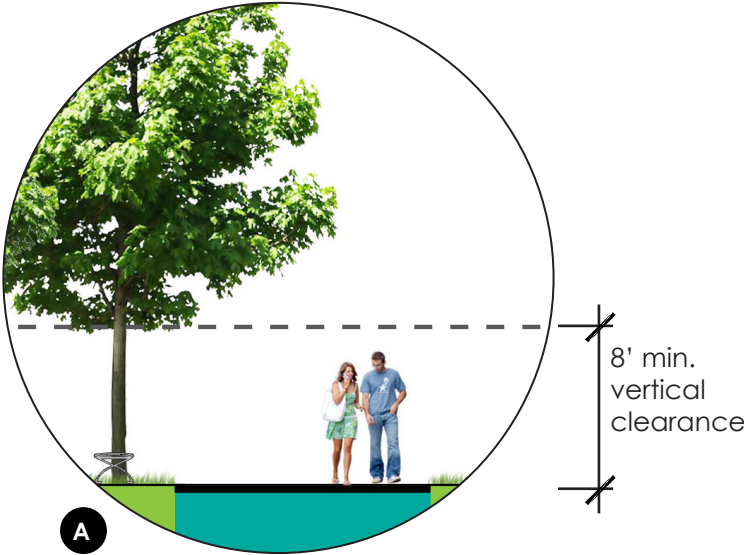
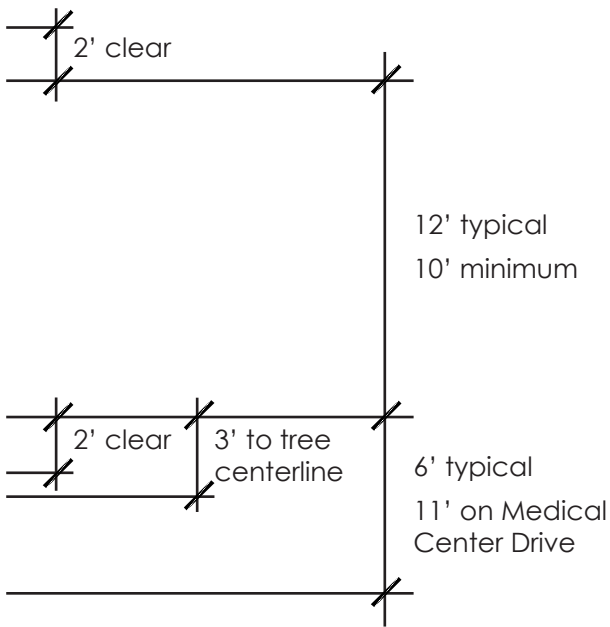
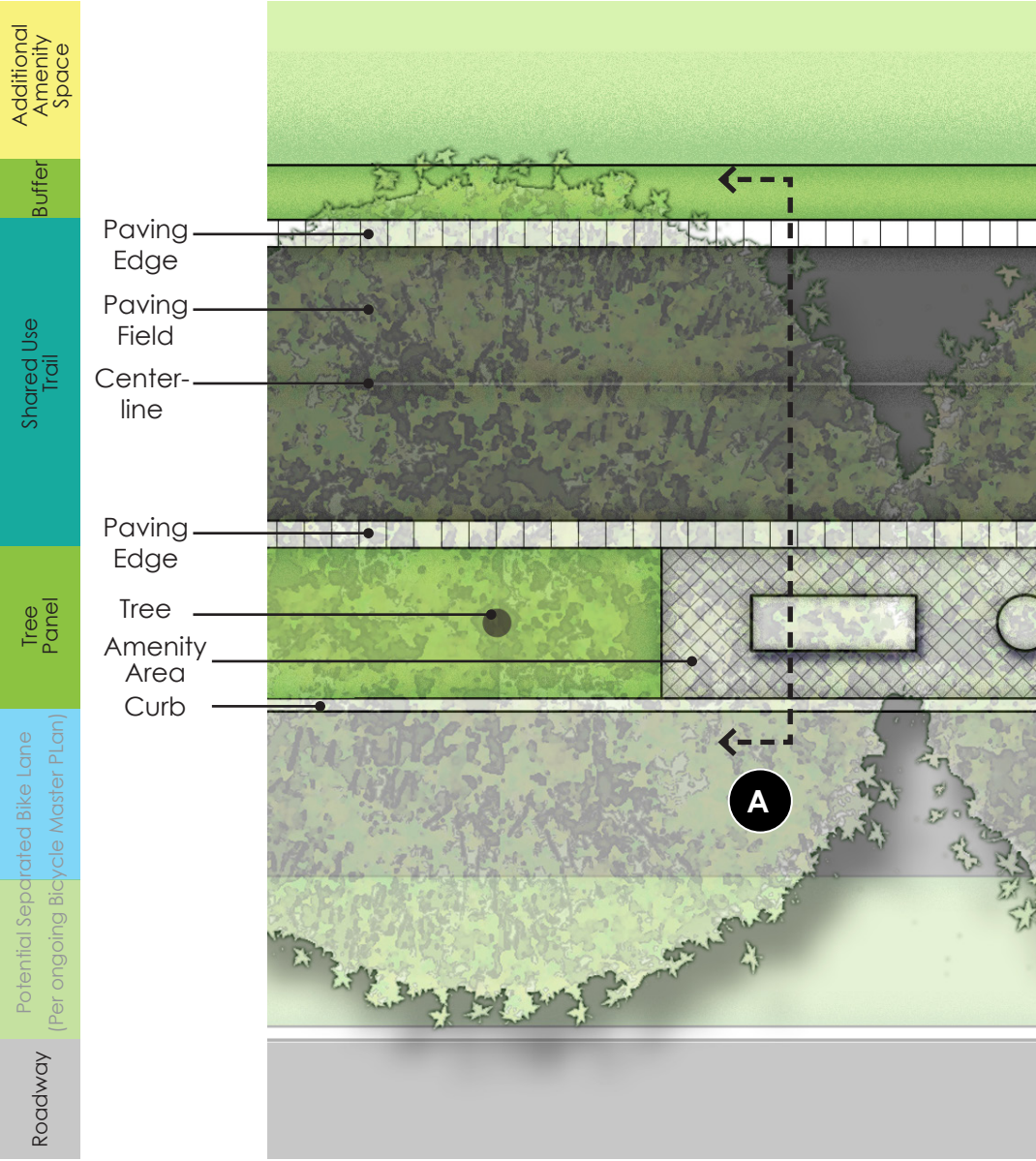


Key Plan



TYPICAL PLAN DETAILS

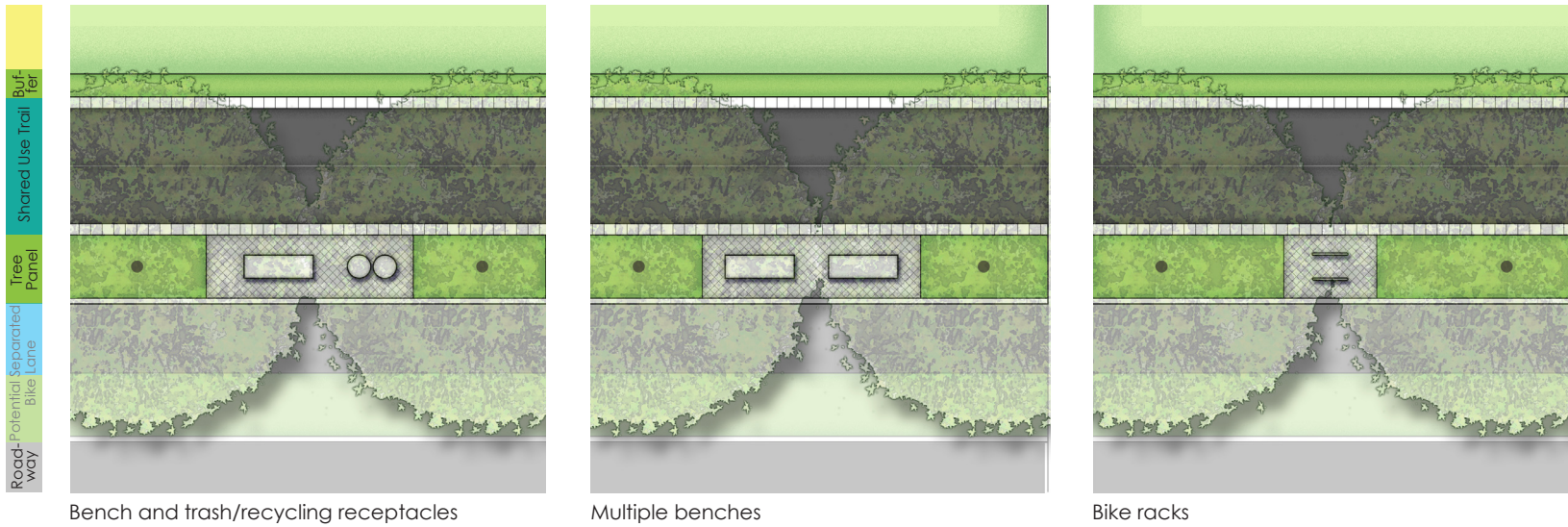
RECOMMENDED OFFSETS AND DIMENSIONS



- The Loop Trail should follow County requirements and American Association of State Highway and Transportation Officials (AASHTO) guidelines for shared use path width, tree panel width, and vertical/horizontal clearances.

AMENITY AREAS IN THE TREE PANEL

TYPICAL AMENITY AREAS

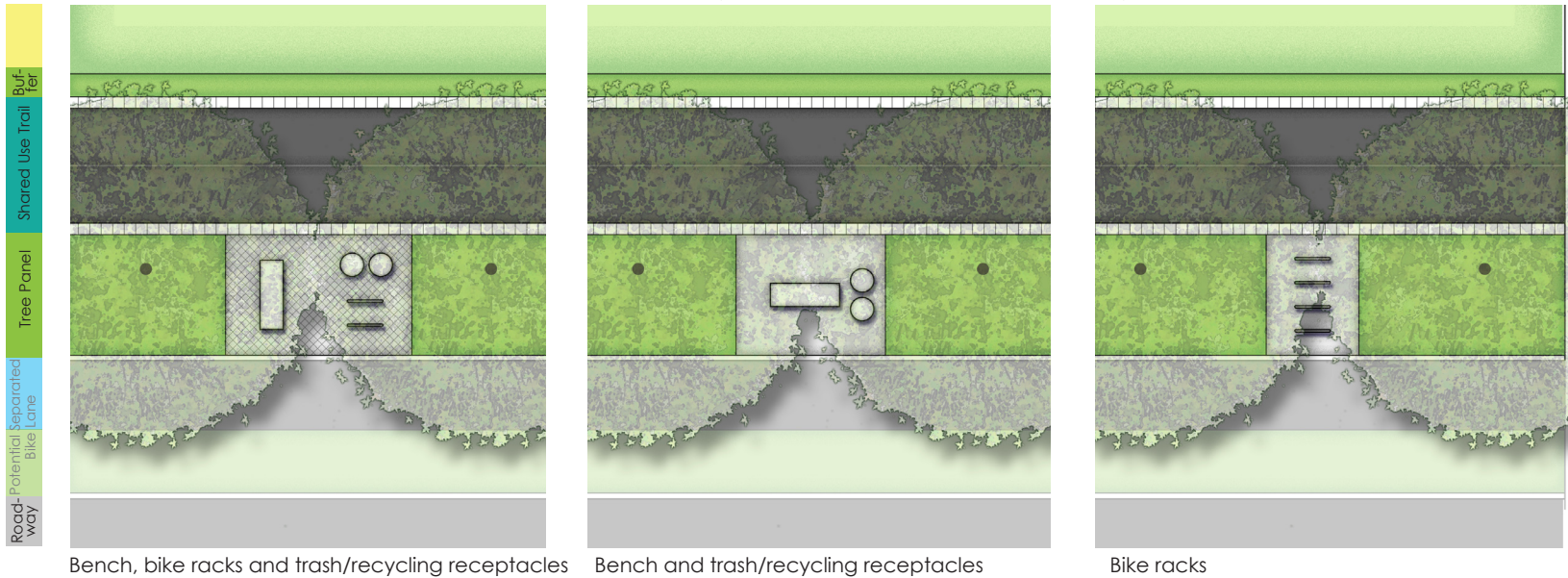


- Amenity areas should include seating, trash/recycling receptacles, bike racks, and pedestrian lighting.
- Furnishings should be situated to provide access from the Loop Trail or the potential separated bike lane.
- The wider tree panel on Medical Center Drive can accommodate larger amenity areas, but these must be designed to limit disturbance of existing mature trees.



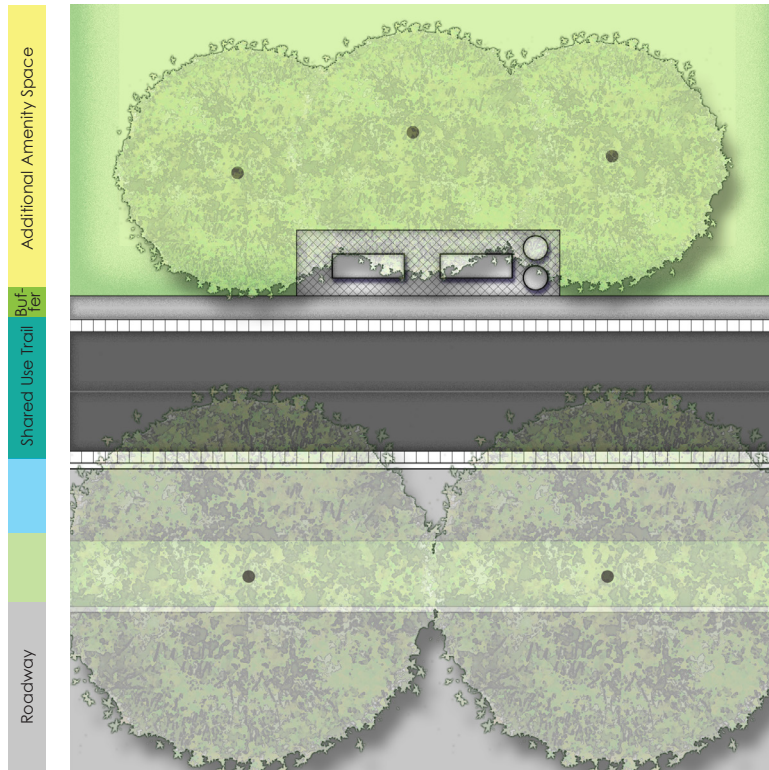
Precedent Images

AMENITY AREAS IN WIDE TREE PANEL (MEDICAL CENTER DRIVE)



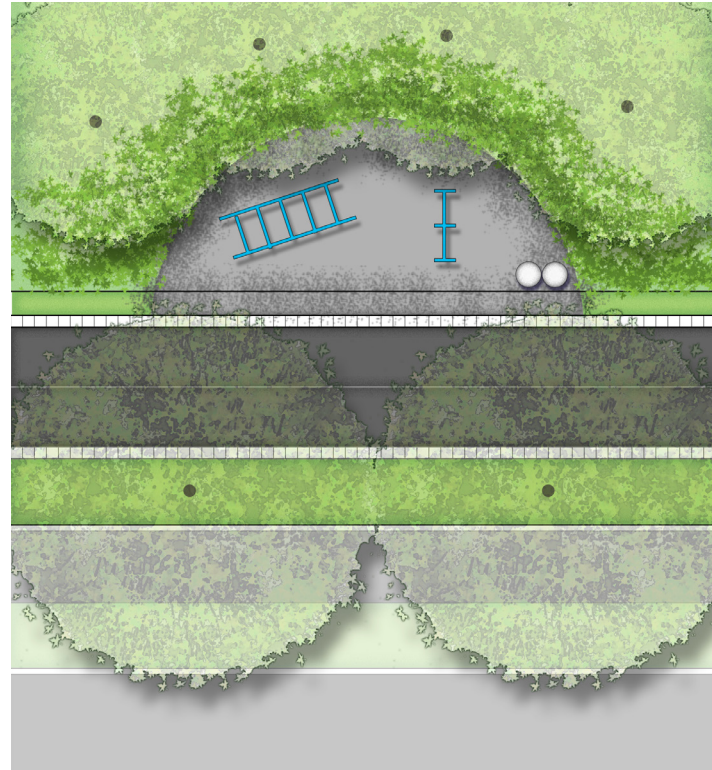
ADDITIONAL AMENITY AREAS

TYPICAL TRAIL



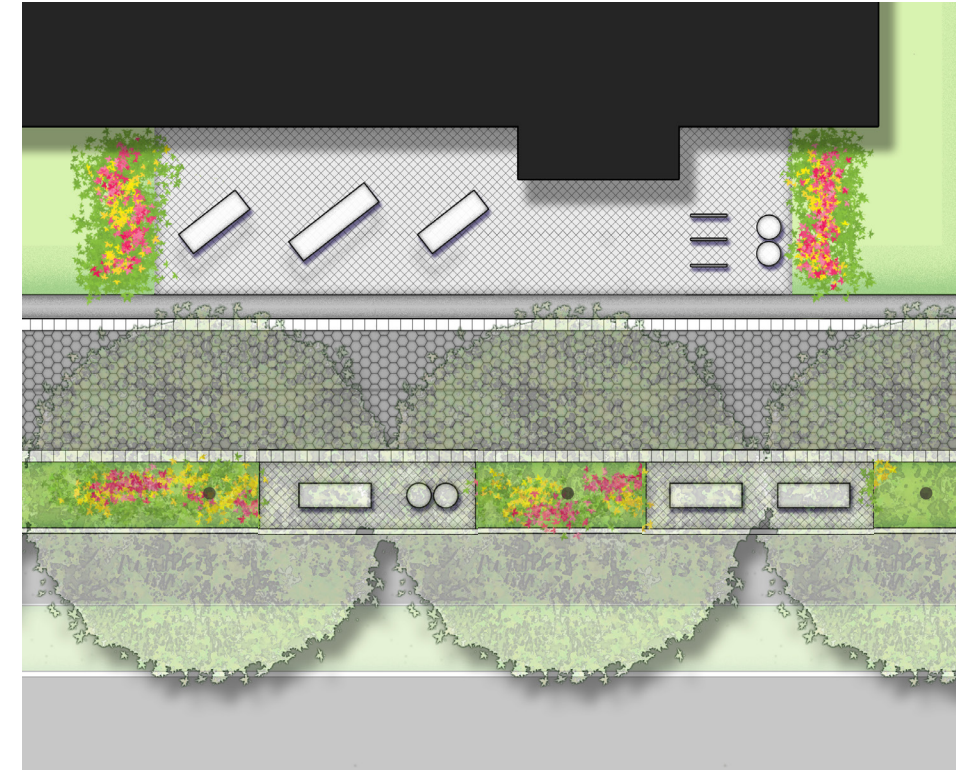
Benches and trash/recycling receptacles (may also include bike racks)

OPEN SPACE/NATURAL AREA



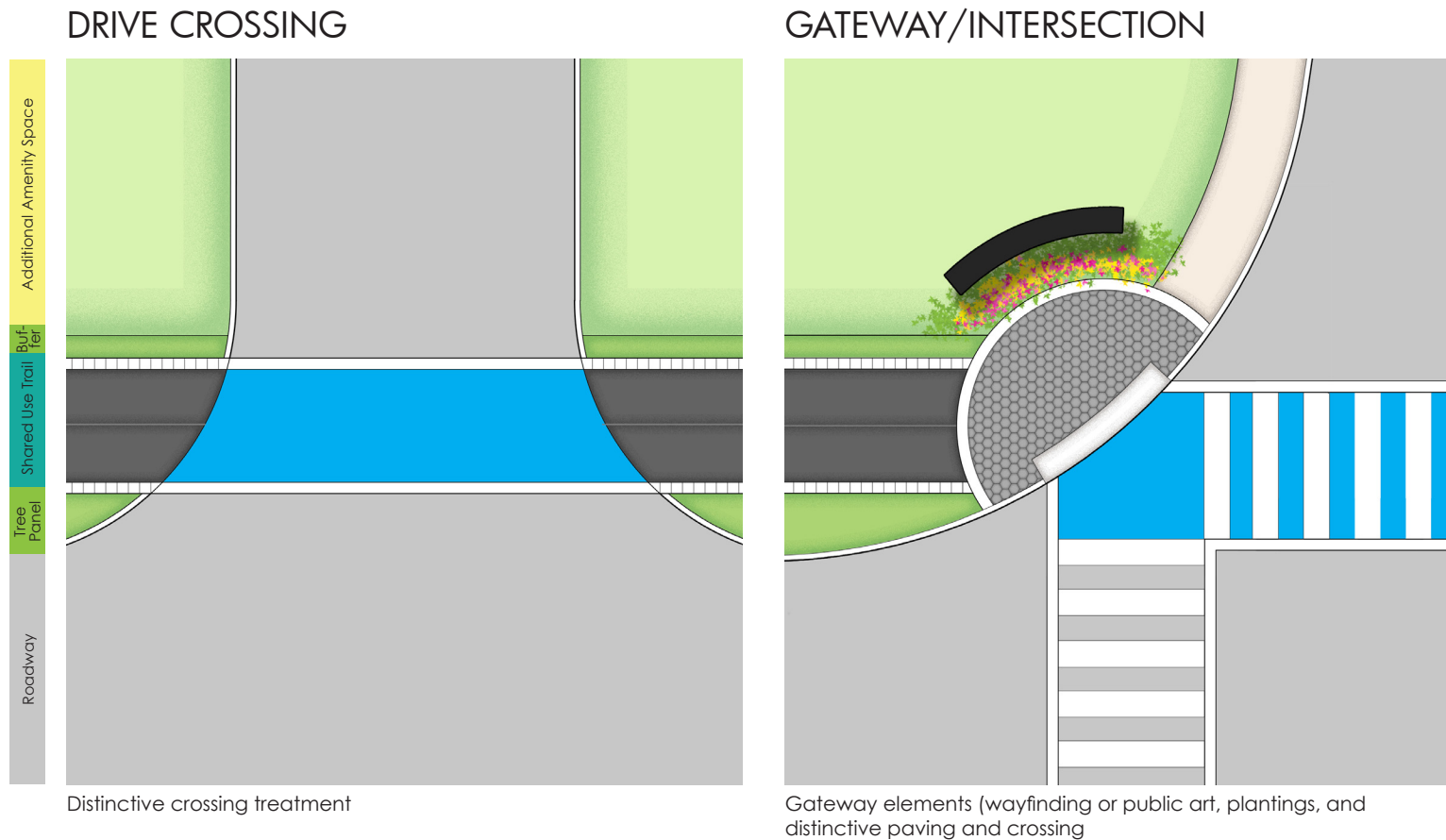
Benches, bike racks and trash/recycling receptacles (may also include tables and chairs, public art, play/exercise equipment, etc.) May include distinctive paving treatments.

URBAN/ACTIVITY AREA



- Additional amenity areas inside the Loop Trail (within or outside of the right-of-way) can provide amenity space in locations where a tree panel is not situated immediately adjacent to the Loop Trail.
- These additional amenity areas can also provide play or exercise opportunities in Open Space/Natural Areas and larger gathering spaces or plazas in Urban/Activity Areas.

DRIVE CROSSINGS, GATEWAYS AND INTERSECTIONS

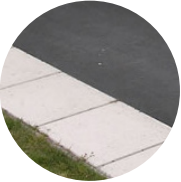






























- At street intersections and drive crossings, distinct high-visibility crosswalk treatments should be considered to indicate continuation of the trail route and alert drivers and trail users of potential conflict points.
- Gateways may incorporate public art, vibrant plantings, informational signage, and distinct paving treatments.




DESIGN LANGUAGE


DESIGN ELEMENTS


Paving	Plantings	Furnishings	Signage & Wayfinding	Low-Impact Development	Art	Crossings	Walls & Rails
							
							
							
							
							
							

- The following section provides an overall design language for both common design elements and areas with special treatments. The recommended design elements constitute a suggested style language to guide subsequent phases of design, rather than specific design specifications.
- Design elements most appropriate for Urban/Activity Areas (UA), Open Space/Natural Area (ON), and Gateways (G) are labeled as such, per the legend; however, if desired, these design treatments may be applied to other segments of the trail, as feasible.

LEGEND

 Urban/Activity Areas

 Open Space/Natural Area

 Gateways

PAVING



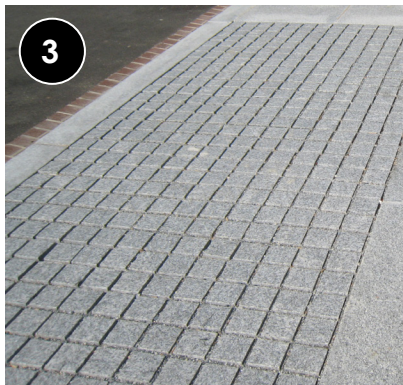
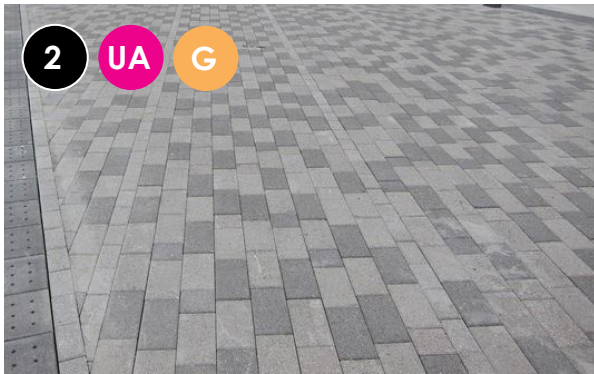
Paver edging with asphalt path



Concrete edging with concrete path



Unit pavers



Permeable pavers

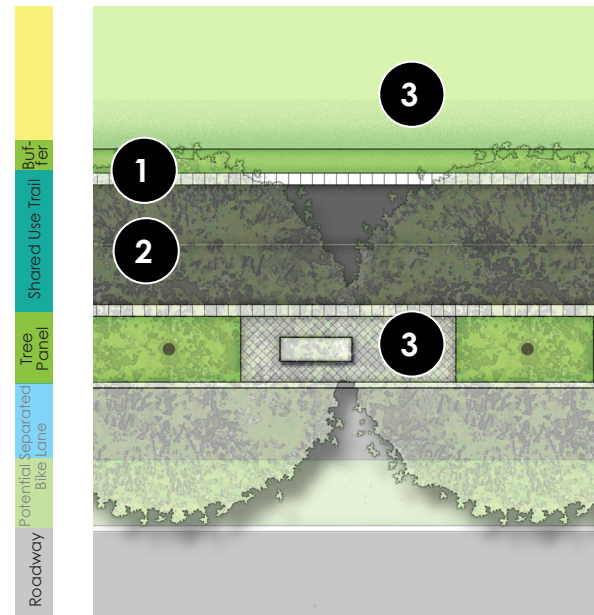


Flexible Porous Paving



Crushed stone

- 1 Paving band at trail edges should be uniform in material, color, and dimensions along the entire length of the Loop Trail. Unit pavers or scored concrete can be used.
 - 2 Paving field may be comprised of tightly-jointed unit pavers and asphalt or concrete. Pavers should be used in Urban/Activity Areas to designate higher-activity zones. A dividing line at center of loop trail can be marked with contrasting pavers in paver areas or painted striping in asphalt or concrete areas.
 - 3 Permeable pavers or flexible porous paving should be used in amenity areas along the trail. Crushed stone can be considered for amenity areas in Open Space/Natural Areas.
- Special pavement markings such as striping or texturing should be used at merge zones and intersection approaches to alert users of potential conflict points.



Paving Diagram

LEGEND

- UA Urban/Activity Areas
- ON Open Space/Natural Area
- G Gateways

PLANTINGS



Continuous line of street trees



Mown turf



Tall grasses and colorful perennials

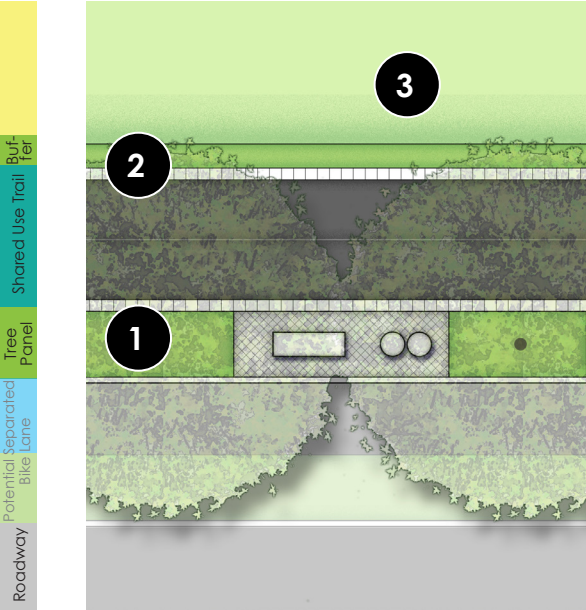


Layered shrubs, perennials, and trees



Clustered shade trees at seating/gathering areas

- 1 Tree panels should be planted with a continuous line of shade trees and turf grass. Shrubs and perennial plantings can be considered to enhance amenity zones, particularly within Urban/Activity Areas.
- 2 The 2' buffer should be planted with mown turf only so as to not impede travel along the trail and use as a pull-off shoulder.
- 3 Plantings can vary within additional amenity spaces along the Loop Trail (within or outside of the right-of-way). Shrubs, perennial plantings, and clustered shade trees can be considered to frame seating and activity areas and emphasize gateways. Where parking lots or secondary roadways are adjacent to the trail, wider planted buffers should be used.



LEGEND

- UA Urban/Activity Areas
- ON Open Space/Natural Area

FURNISHINGS AND LIGHTING



Backless benches can be accessed from both sides



Distinctive custom benches



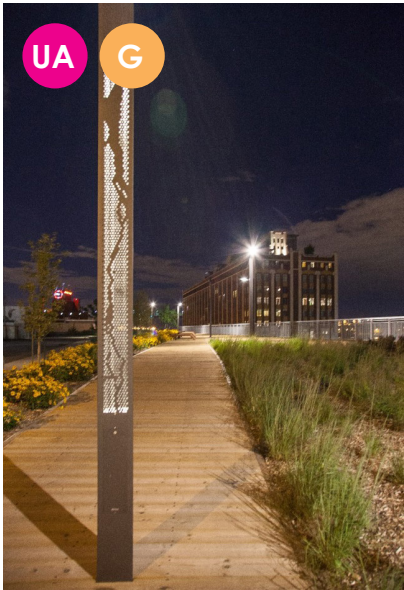
Circular bike racks



Pedestrian lights





- Furnishings along the Loop Trail should include seating, trash and recycling receptacles, pedestrian lighting, and bike racks.
- A palette of simple metal furnishings should be selected and used consistently along the trail to reinforce the loop identity.
- Custom furnishings may be used in Urban/Activity Areas, Open Space/Natural Areas, and in additional amenity spaces outside of the right-of-way.
- Furnishings can incorporate branding elements associated with the Loop Trail or with destinations along the trail.



Distinctive lighting elements

LEGEND

-  Urban/Activity Areas
-  Gateways

SIGNAGE, WAYFINDING, & BRANDING



Wayfinding signage to clearly identify trail route and brand identity



Branding or wayfinding on trail surface



Painted or embedded mile markers



- Signage should serve a functional role and create an identifiable visual image or brand for the trail.
- Highly visible and distinctive signage should be used to alert passers-by to the presence of the trail.
- Wayfinding elements can be incorporated as signage or on-ground markings.
- Opportunities for institutional or corporate branding may be integrated.



Distinctive signage system

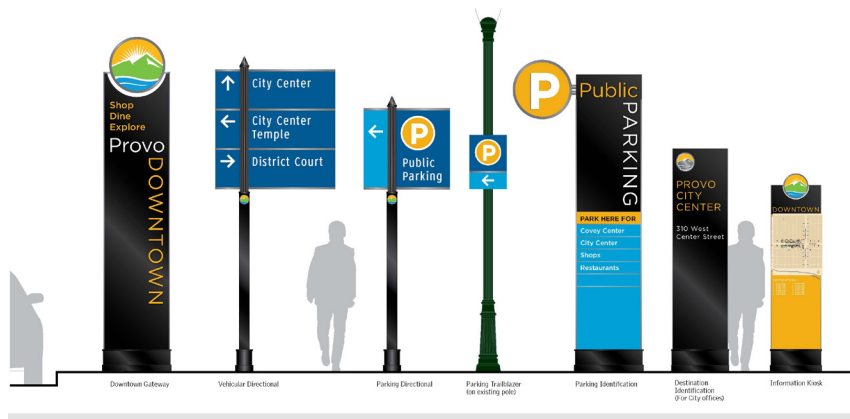
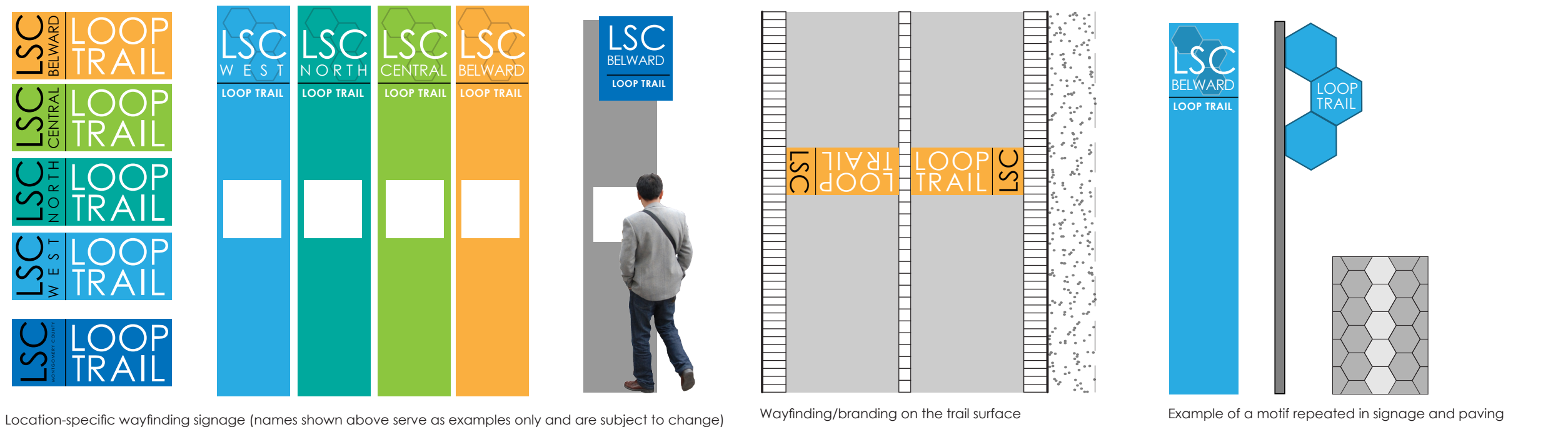


Signage to identify separate facilities



Mounted banners

SIGNAGE, WAYFINDING, & BRANDING, CONT.



- Signage can be used to identify different areas within the Life Sciences Center and help user orient themselves along the Loop.
- An identifiable family of wayfinding elements should incorporate a repeating motif selected to represent the Life Sciences Center.
- Loop Trail wayfinding elements may be coordinated with vehicular and bicycle signage.

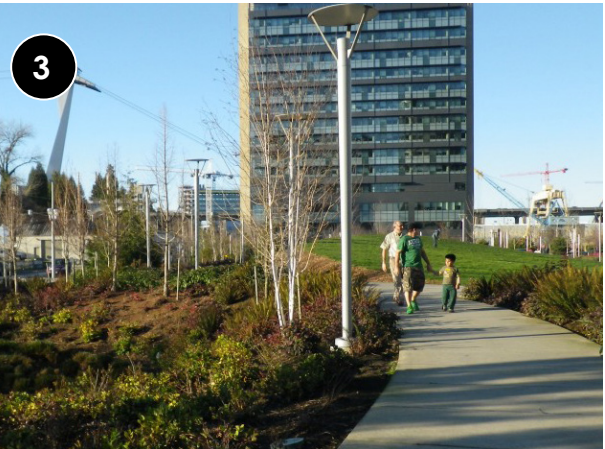
LOW-IMPACT DEVELOPMENT OPPORTUNITIES



Shade trees



Permeable pavers and flexible porous paving



Planted bioretention areas



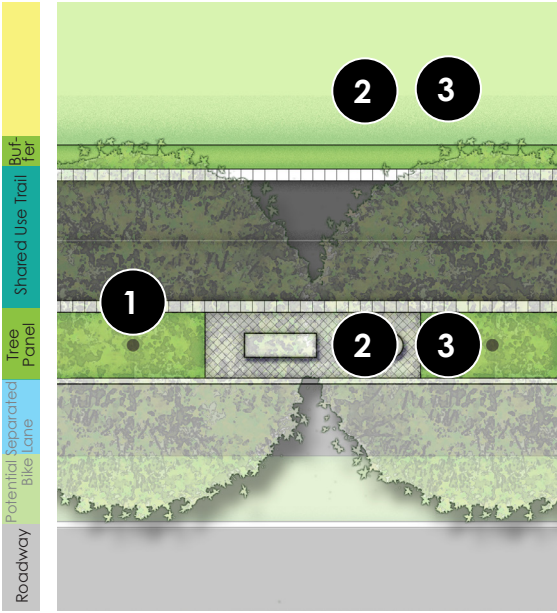
Bioretention in tree boxes



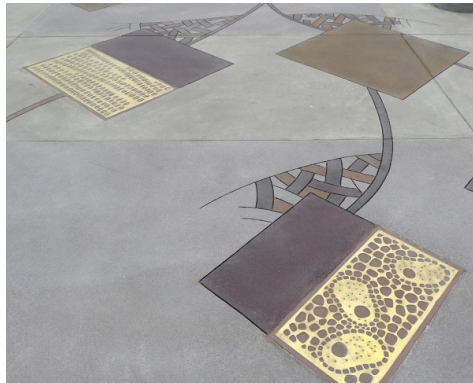
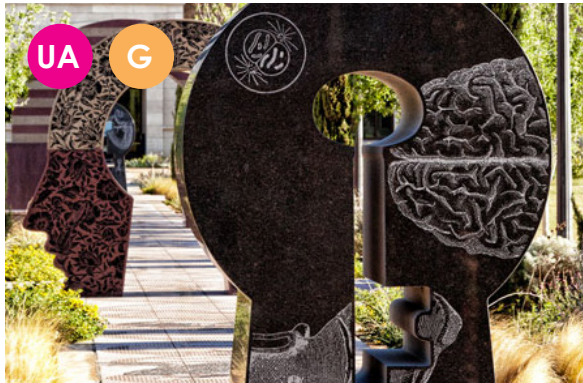
- 1 Preserve existing trees as possible and plant a continuous line of shade trees along trail.
 - 2 Permeable pavers flexible porous paving should be used in amenity areas along the trail.
 - 3 Bioretention may be incorporated in planting areas along the trail, including tree boxes, planting strips, and larger planted areas.
- Low impact development (LID) should serve as both a stormwater management tool and a placemaking element.



Tree panel on Medical Center Drive should be widened to allow more space between tree and adjacent paving.



PUBLIC ART



Patterns or words embedded in paving



Sculptural pieces as focal points



Art integrated into walls and other vertical elements



Interactive light or water elements



- Public art should be integrated into the loop trail to support placemaking and create a more vibrant, engaging environment.
- Art may be included anywhere along the trail but particularly at Urban/Activity Areas and Gateways
- Art elements can be incorporated into the trail in a variety of forms, including sculptural pieces as focal points, patterns or words embedded in paving, sculptural walls and other vertical elements, or interactive water features.

LEGEND

- Urban/Activity Areas
- Open Space/Natural Area
- Gateways

CROSSINGS



Distinctive painted crossings at driveways and entry roads



- Bright and high-visibility crossing treatments at entry drive should be used to reduce the possibility of conflicts with vehicles.
- Distinctive roadway crossings should be considered to clearly identify the Loop Trail route.
- Driveway crossings should be highlighted by distinctive paving treatments.



Identifiable crosswalks at road intersections



WALLS



Metal guard rail

- Where needed, retaining walls on the inner edge of the Loop Trail should reference existing site walls, if present.
- If required, guard railing should be simple and unobtrusive.
- Seat walls may provide additional seating where feasible.



Existing walls in the Life Sciences Center



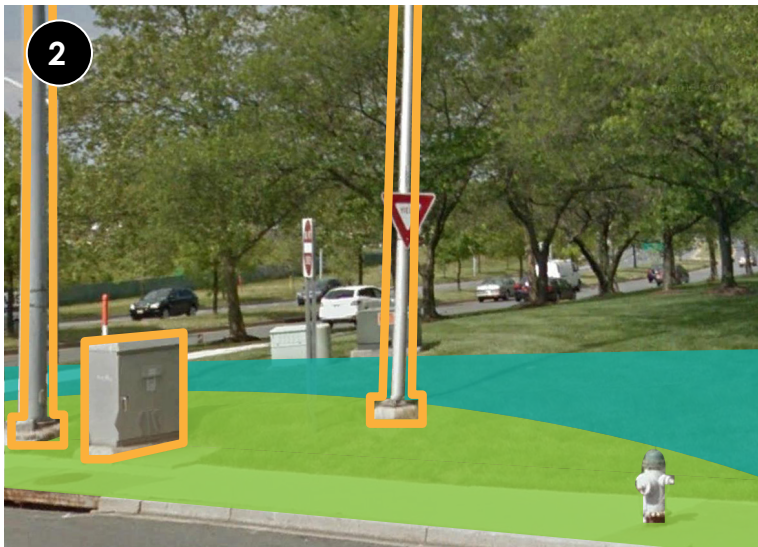
Potential retaining walls along the trail

UTILITY CONFLICTS

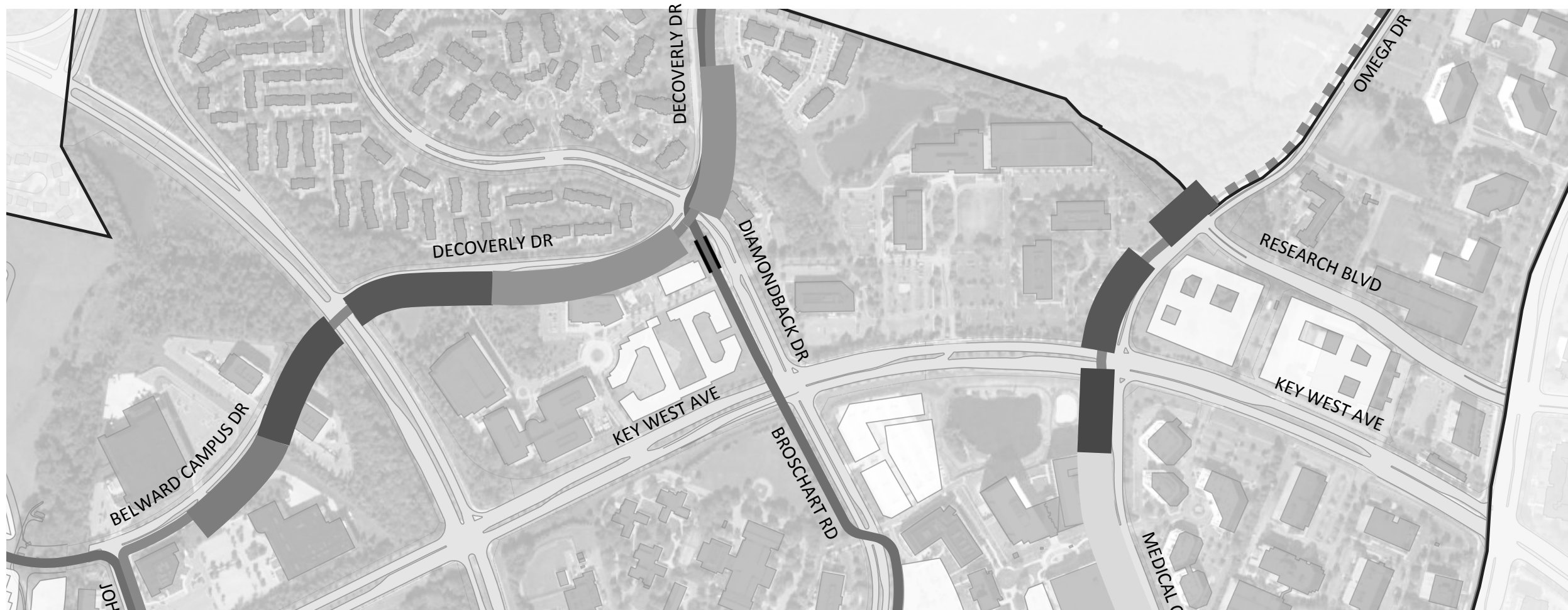
TYPICAL UTILITY CONFLICTS



OMEGA DRIVE/KEY WEST AVENUE

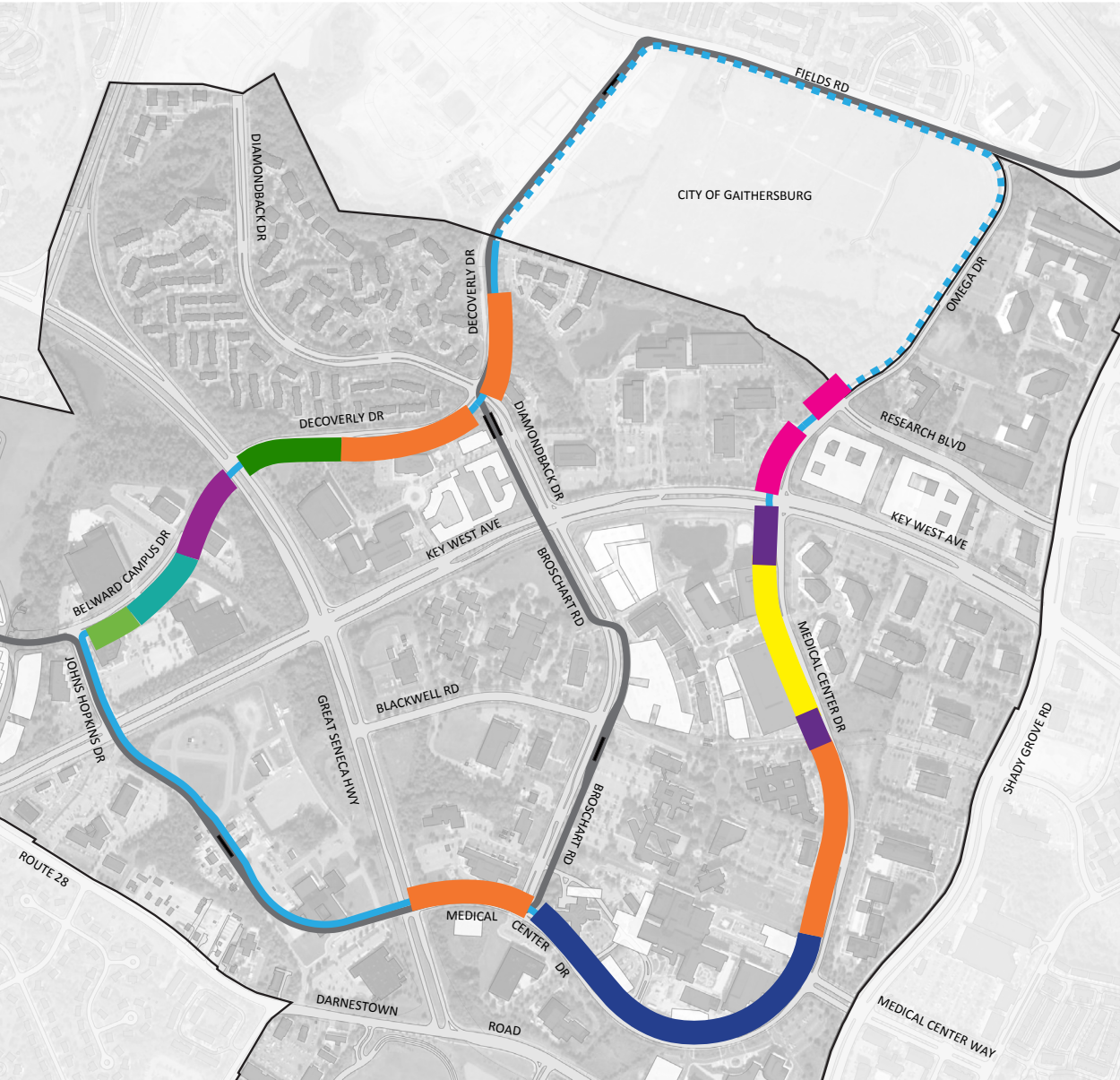


- 1 Where feasible, relocate utilities out of trail path or construct trail around utility covers.
 - 2 Where utilities cannot be moved, trail may be narrowed or rerouted.
- Underground utility locations and their potential impact upon the Loop Trail requires further study.



ADDITIONAL CONSIDERATIONS

EASEMENTS REQUIRED



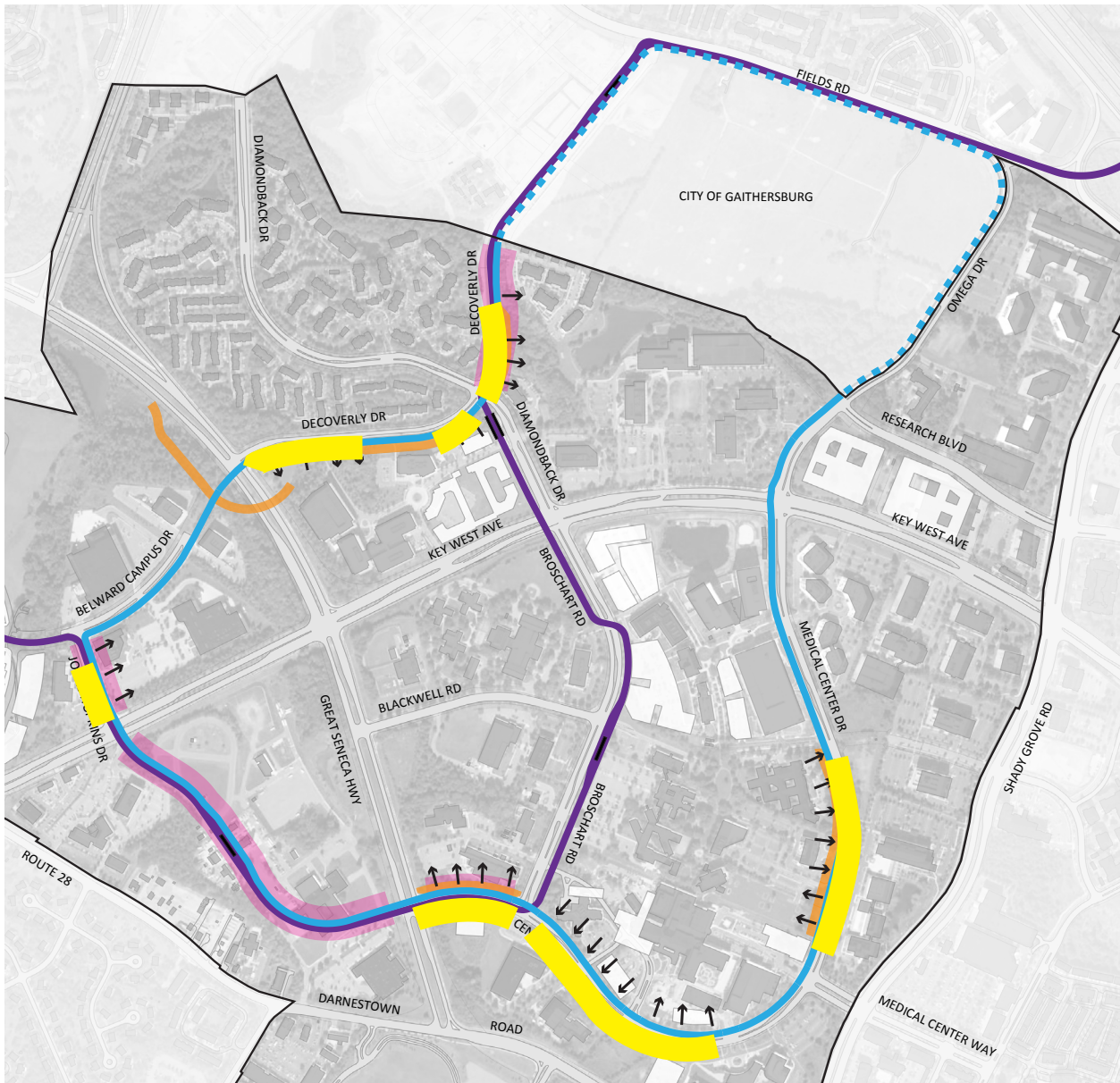
KEY	OWNER	WIDTH	AREA
	JPMCC 2005-CIBC13 Omega Drive LLC	0 - 9.5 LF	2,880 SF
	JBG/Rockville NCI Campus LLC	14.5 - 16.75 LF	4,095 SF
	Johns Hopkins University	12.25 - 15.75 LF	15,826 SF
	Adventist Healthcare, Inc.	7.5 - 17 LF	20,219 SF
	GP Rock One LLC	7.5 - 8.5 LF	1,773 SF
	Maryland Economic Development Corp.	10 - 14.75 LF	6,060 SF
	BMR-9900 Campus LLC	12.5 LF *	678 SF *
	Jaeger, John F TR	2.5 - 6.25 LF	4,804 SF

Unused transit easements

* Extension of the trail between Belward Campus Drive and Great Seneca Highway may require a larger easement area.

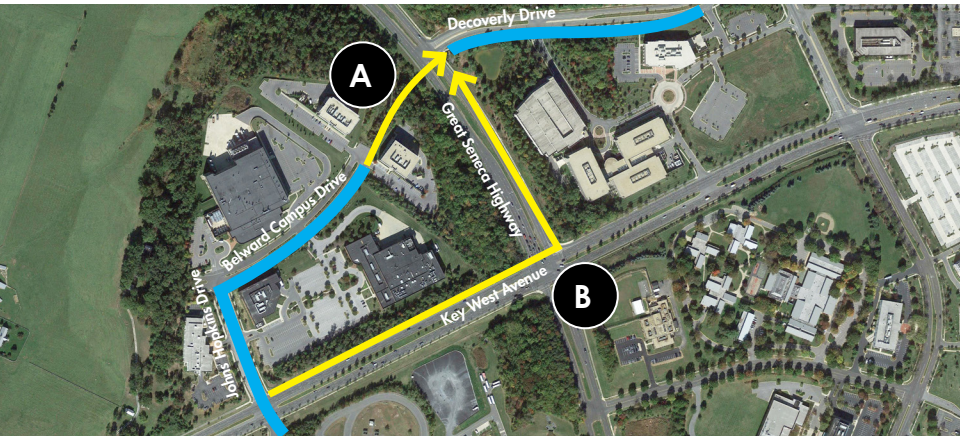
Note: Easement requirements associated with CCT construction are not included. Greater easements may be required where grade changes are necessary (e.g., slopes, retaining walls, etc.).

POTENTIAL RETAINING WALL LOCATIONS

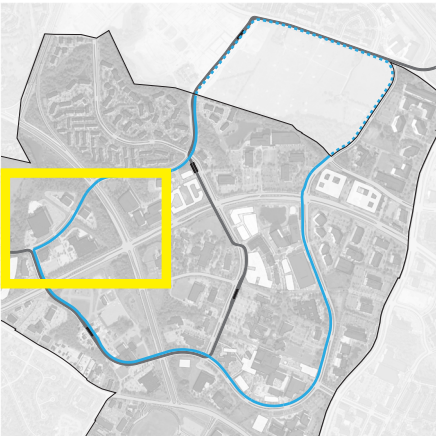


- LEGEND
- Potential loop trail
 - Future CCT
 - Slope at inner edge
 - Potential retaining wall location

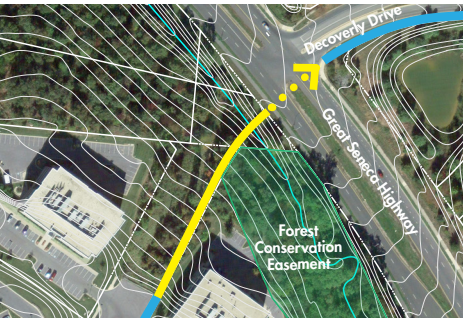
BELWARD CAMPUS DRIVE CONNECTION



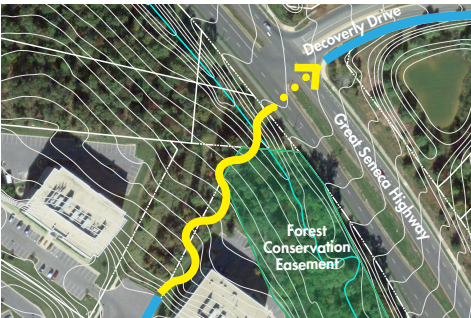
- Missing roadway connection per GSSC Master Plan between Belward Campus Drive and Great Seneca Highway/Decoverly Drive leaves a gap in the Loop Trail.
- If roadway is constructed per Master Plan recommendation, the Loop Trail should be incorporated according to the Loop Trail Design Guidelines typical alignment and cross section.
- Options A and B, below, provide alternatives to continue the trail which do not require construction of this roadway.



A LOOP CONTINUATION PER MASTER PLAN



≈ 6.5% slope



< 5% slope with switchbacks

PROS:

- Achieves Master Plan loop trail alignment
- Provides direct connection between Belward Campus Drive and Decoverly Drive

CONS:

- Requires significant regrading and removal of existing vegetation
- May require encroachment into forest conservation easement
- No existing crossing at Great Seneca Highway (would need to be coordinated with SHA)*

*Crossing of Great Seneca Highway may be (1) two-stage unsignalized crossing utilizing existing median, (2) signalized with continuous crosswalk (if area-wide development necessitates a signal at this intersection), or (3) grade separated crossing. To be determined in consultation with SHA.

B ALTERNATE OR INTERIM ROUTE



Existing conditions on Key West Ave and Great Seneca Hwy



PROS:

- Does not require significant regrading and removal of existing vegetation
- Does not require new crossing at Great Seneca Highway

CONS:

- Creates “dead end” at Belward Campus Drive
- Does not achieve Master Plan loop trail alignment
- Existing sidewalks may not be sufficient to support shared use*

*If alternate route is determined to be a permanent measure, long-term trail design should conform with typical trail cross section and design language described in this document.



IMPLEMENTATION STRATEGY

IMPLEMENTATION STRATEGY

A strategy for implementing the LSC Loop Trail will necessarily evolve with the trail design, as management and funding needs are explored and resolved and as planned development and construction projects in the area are implemented. The following section describes both immediate actions to advance the trail design and a range of longer-term implementation considerations to ensure effective management and operations, design and branding, and trail phasing and prioritization.

A. IMMEDIATE ACTIONS

Two immediate actions are necessary to ensure that the LSC Loop Trail design process advances without delay and capitalizes on current momentum and support for the trail:

1. *Allocate funds for Facility Planning in the County's CIP.* To ensure that the LSC Loop Trail is included in the CIP, it is recommended that the County project team and the GSSC Implementation Advisory Committee immediately begin introducing the project to key County decision-makers and to the public, in order to build support for the project in the near term and ensure that Facility Planning is funded under the CIP to be adopted in early 2016. Specific actions include:
 - Meet with the County Executive's Office to introduce the project and share the concept design.

- Meet with members of the County Council to introduce the project and its current status.
 - Conduct a public roll-out of the project, including public presentations to raise awareness of and support for the LSC Loop Trail. Presentations could include a presentation to the Planning Board, relevant Council committees (i.e., Transportation, Infrastructure, Energy and Environment) and to the general public at public meetings and events.
 - Prepare a formal recommendation letter, from the GSSC Implementation Advisory Committee to the County Executive, recommending that facility planning for the LSC Loop Trail be included in the CIP.
 - Solicit additional letters of support from key stakeholders and property owners.
 - Meet with County agencies, such as the Department of Parks and MCDOT, that could potentially oversee the design and construction process.
2. *Identify and/or form a Steering Committee to guide and oversee subsequent phases of design and implementation.* As the project transitions from design guidelines to the Facility Planning phases, final design and construction documents, it will be important to identify an entity to champion the

project and provide the necessary oversight. As the GSSC Implementation Advisory Committee has served this role to date during the concept design phase, in collaboration with Planning Department staff, this committee (or a subgroup composed of its members) is a logical entity to continue to champion the project. Alternatively, a newly-formed Steering Committee composed of a representative cross-section of area stakeholders or a combination of Advisory Committee representatives and other stakeholders are other options.

B. FACILITY PLANNING

In addition to advancing the LSC Loop Trail to a more detailed level of design, the Facility Planning process will need to include further study and refinement of a number of unresolved design issues. In addition, there will be a need for further coordination with other agencies, property owners and key stakeholders to coordinate the Loop Trail design process with other development and construction projects as well as with residents of the surrounding communities. Specific actions include:

1. *Conduct additional studies as needed as part of the Facility Planning process.* Issues requiring further attention at a more-detailed level of design include:
 - Land Acquisition/Dedication: Confirm and clarify the amount of additional land outside the public

right-of-way that is required to accommodate the trail alignment, associated buffers and amenity spaces, any required grading or retaining walls, and any required stormwater management facilities.

- Easements: Identify and mitigate any conflicts with utilities within public utility easements; obtain legal confirmation that unused transit easements and open space easements along the trail route may be utilized to accommodate the trail alignment and/or associated amenities; and identify any additional easements required to accommodate stormwater management facilities.
- Utilities: Identify options for mitigating conflicts with other underground and above-ground utilities along the trail route.
- Retaining Walls and Grading: Study the need for and land area affected by grading or retaining walls required to accommodate the trail alignment.
- Stormwater Management (SWM): Conduct a stormwater management study to assess how stormwater management can be accommodated within the right-of-way and whether additional land is required, based on existing state and local stormwater management requirements.

- Belward-to-Decoverly Connection: Further study options to complete the trail loop between Belward Campus Drive and Decoverly Drive, across Great Seneca Highway, based on traffic, safety, engineering and environmental considerations.

2. *Coordinate subsequent phases of design with relevant agencies, property owners, and community stakeholders*, including:

- CCT / MTA, to coordinate the design of the trail with design and construction of the CCT.
- Department of General Services, to coordinate the trail design with planning and development of the PSTA property.
- MCDOT / SHA, to coordinate crossings of Key West Avenue and Great Seneca Highway, as well as potential interim or alternative solutions to the Belward-to-Decoverly connection along Key West Avenue and Great Seneca Highway.
- Property owners along the trail route, to coordinate necessary land acquisition and developer/owner contributions.
- The surrounding community, including residents of Montgomery County, Rockville and Gaithersburg, as well as the Universities at Shady Grove.

- The Montgomery County Planning Department, to coordinate the trail design with the County's Bicycle Master Plan update and a recommended separated bike lane parallel to the trail alignment.

A critical element of consideration in selecting the County agency responsible for the Facility Planning phase of the project will be the ability of that entity to carry out the concept design as defined in this document. This will require a level of flexibility to depart from typical County facility standards in order to create a Loop Trail that sets a new amenity standard for the county, the region, and the country.

C. MANAGEMENT, MAINTENANCE, OPERATIONS AND FUNDING

As the LSC Loop Trail advances through subsequent phases of design, it will be important to identify (1) how and by whom the Loop Trail design, construction and operations will be managed, as well as which entities will be responsible for ongoing maintenance of the trail and (2) a strategy for funding the Loop Trail and the range of funding opportunities to be pursued. Potential management entity options for the LSC Loop Trail include:

- A non-profit corporation, such as those established for the Indianapolis Cultural Trail, Atlanta BeltLine, and The 606 (Chicago), as well

as numerous other “Friends of” groups around the country.

- A Business Improvement District, Benefit Assessment District or equivalent, in which property owners pay additional taxes or assessments to fund area improvements and maintenance.
- A County agency. Candidate agencies discussed during the concept design process include the Department of Parks and/or MCDOT.
- A public-private partnership, which may include one or more of the above entities.

The Facility Planning phase of design could be led by a County entity that then transfers or shares responsibilities to a private or non-profit entity (a public-private partnership).

It is anticipated that the appropriate management structure and a funding strategy will be determined as the trail design advances and once the full cost of the project can be estimated. Potential funding opportunities include:

- Funding all or a portion of the cost of the project in the county CIP
- Developer contributions
- Owner contributions

- Grant funding, including federal grants (i.e., TIGER grants), state grants (i.e., Maryland Bikeways Program, Maryland Transportation Alternatives Program) and grants from private foundations.
- Sponsorship opportunities and naming rights for locations or segments along the trail route.

D. DESIGN AND BRANDING

As individual segments or phases of the trail are constructed, it will be important to have a carefully-developed set of design guidelines in place to ensure overall design coordination, consistency and distinctiveness, in order for the trail to “read” as a single, coordinated amenity. Recommended actions include:

1. *Prepare guidelines to ensure consistent selection and incorporation of design elements throughout the trail route and ways to preserve the distinctiveness of the design within the determined project budget.* Specific design elements requiring coordination include:
 - Paving and other hardscape elements
 - Lighting / furnishings
 - Plantings/landscape
 - Signage
 - Public art

To help control costs while still establishing an identifiable and recognizable design character, the concept design recommends concentrating higher-cost design treatments (i.e., special pavers, custom furnishings, and larger amenity spaces) in the most prominent locations—urban areas, gateways, activity nodes—and applying a less-expensive, though still distinctive and visually appealing, design treatment (i.e., asphalt or concrete with edging and standard furnishings) to other segments of the trail.

2. *Coordinate the trail with an overall image and brand identity.* Ideally, such a brand identity would extend beyond the Loop Trail and would begin with the establishment of a brand strategy for the entire Life Sciences Center district.
3. *Establish a design and marketing approach to balance the collective identity and image of the Loop Trail with the individual needs and design expressions of property owners along the trail route (through sponsorship and naming rights, signage, art and other expressions of individual property owner identity).*

E. PHASING AND PRIORITIZATION

The sequence and timing of trail implementation—as well as whether the trail is constructed all at once or in phases—is dependent, in part, on the implementation of other development and construction projects in the area, available funding for the trail, infrastructure

requirements and other strategic considerations. Nevertheless, a range of factors should be considered when determining the phases and priorities for trail development. Potential phasing criteria include:

- The timing of new development and construction, including: construction of the CCT transit system and stations, development of the PSTA property and the roadway through the property, and the implementation of other planned development on properties in the vicinity of the trail alignment.
- The relative importance of individual trail segments as connectors to destinations and other trails in the surrounding area.
- The visibility and prominence of individual trail segments, to ensure that any early phases of the trail “advertise themselves” and begin to establish a distinctive identity for the trail and the LSC as a whole.
- Infrastructure requirements, such as the Master Plan-recommended Belward-Decoverly roadway connection, stormwater management and culvert upgrades adjacent to the trail, utilities, roadway reconstruction as part of the CCT, and any other necessary preconditions to constructing certain segments of the trail.

Potential Pilot Project

To generate excitement about the trail and “test” the design, the County and any other implementing entities may wish to consider a pilot (or demonstration) project to construct one initial segment of the trail. One candidate segment to consider for a pilot project is the segment along Medical Center Drive adjacent to the National Cancer Institute. This segment is particularly relevant as a pilot project given its high profile (National Cancer Institute as an anchor), adjacent commercial uses, lack of technical constraints to constructing the trail, existing wide tree panel (which could accommodate amenity spaces within the public right-of-way), existing mature shade trees, and its visibility from Key West Avenue.