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Fairfax Circle Visioning and Multimodal Intersection Alternatives Study

PREPARED FOR
City of Fairfax

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Introduction

The City of Fairfax initiated the Fairfax Circle Visioning and Multimodal Intersection Alternatives Study to explore options for reimagining and reconfiguring the Fairfax Circle intersection. This non-traditional “hamburger roundabout” is the central intersection in the Fairfax Circle Activity Center. The Fairfax Circle Activity Center is one of five areas designated in the city’s 2035 Comprehensive Plan envisioned as a vibrant, walkable location featuring a mix of uses and a variety of mobility options. Fairfax Circle has an opportunity to leverage its proximity to Metrorail and regional trail connections to achieve this vision.

Currently, the area surrounding Fairfax Circle is largely characterized by its legacy development patterns – traditional suburban strip retail, high-speed multilane roadways, and surface parking lots. The recent opening of the Scout on the Circle mixed-use development offers an example of the type of development the city envisions for the area. The Fairfax Circle intersection itself is sprawling, confusing to navigate, and intimidating for any user not driving or riding in a private vehicle. The Activity Center’s continued transformation into a vibrant, transit-supportive, mixed-use gateway to the City hinges on reconfiguring the Fairfax Circle intersection to more safely and comfortably accommodate all modes, including walking and biking.

The 2035 Comprehensive Plan envisions a city of “15-minute neighborhoods,” where all residents can access a local activity center via a safe 15-minute walk from home. A right-sized Fairfax Circle intersection, with a scale that better balances the needs of people and automobiles, is critical to realizing the

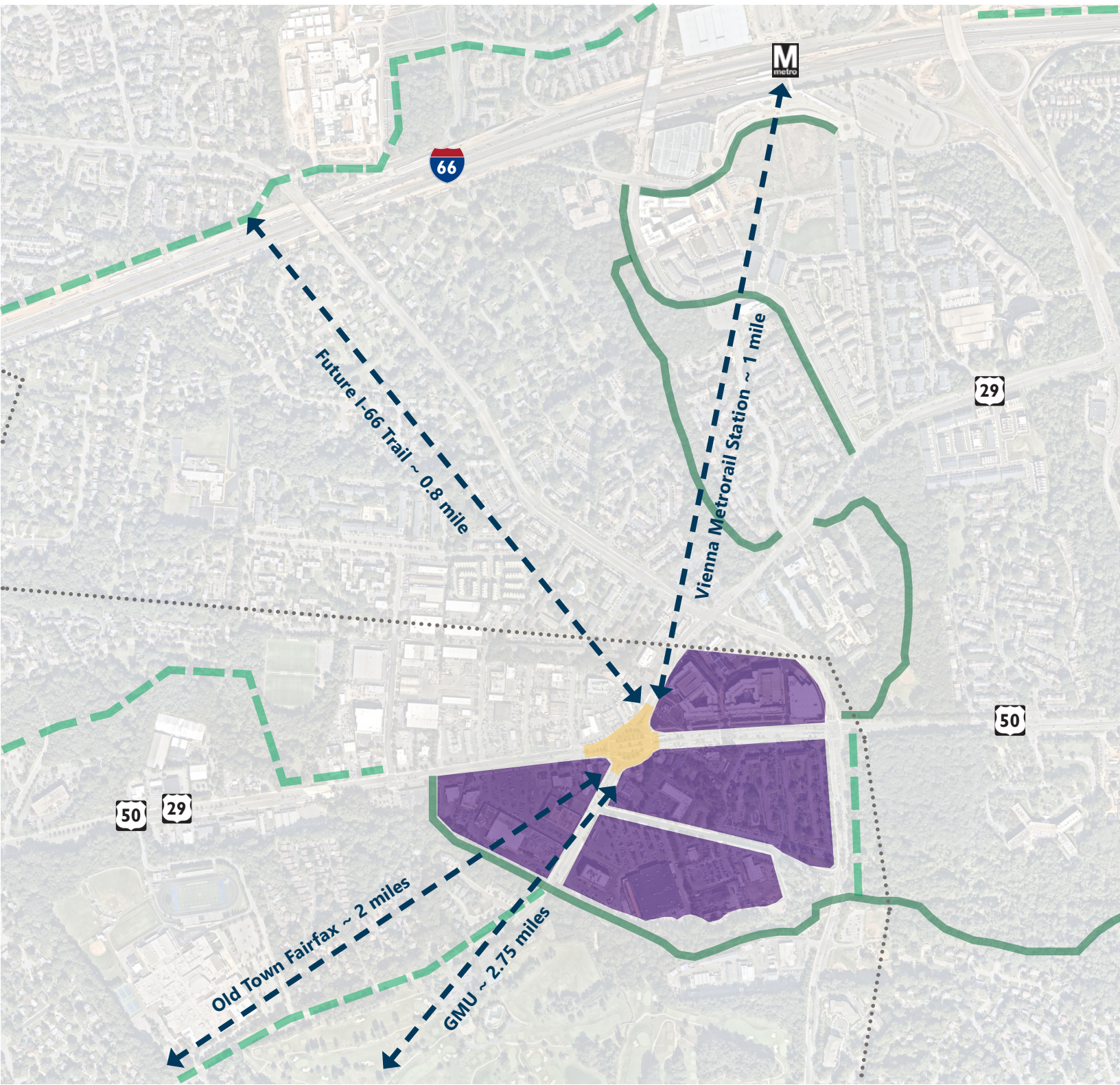
connectivity, mix of uses, densities, and mobility options envisioned for the Activity Center. This study represents the first step toward identifying multimodal improvements and developing a new configuration for Fairfax Circle that works well for all users and supports the city’s vision for the surrounding area while maintaining connections to the regional roadway and trail networks.

This study was conducted through a collaborative process led by City of Fairfax transportation planning staff with support from a consultant team. Touch points with various partners and stakeholder groups provided the project team with vital input at key points throughout the study process. These included public input received via Engage Fairfax, the city’s online public engagement platform; virtual work sessions with representatives from other city departments; and briefings at City Council Work Sessions.

TLC Program Overview

The Fairfax Circle Visioning and Multimodal Intersection Alternatives Study was funded through the Transportation and Land-Use Connections (TLC) Program. Since 2007, the Transportation Planning Board has funded small planning, design, and preliminary engineering projects at the community level through the TLC Program. The program provides assistance for projects that promote mixed-use, walkable communities and support a variety of transportation alternatives.

Project Study Area



LEGEND

- Trail (Existing)
- Trail (Future)

- City of Fairfax Border
- Fairfax Circle Intersection Footprint

- Metrorail Station
- Fairfax Circle Activity Center

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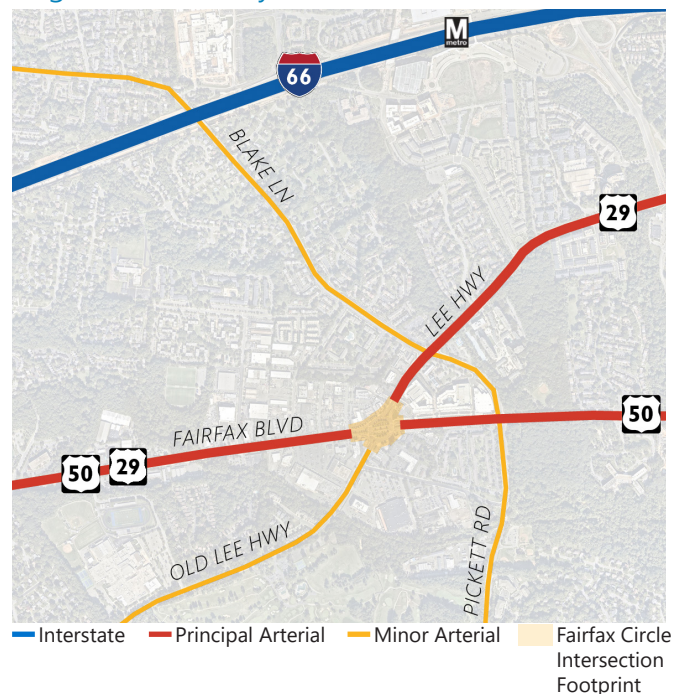
Existing Conditions

Fairfax Circle's location at the junction of two of the region's major surface roadway corridors makes it a key intersection both within the City of Fairfax and in the region. As principal arterials located in the I-66 corridor, Fairfax Boulevard (US 50) and Lee Highway (US 29) carry substantial commuter traffic volumes, serving nearby job centers in the City of Fairfax and in Fairfax County while also providing access to I-66 and the Vienna Metro station approximately one mile to the northeast. Old Lee Highway, which comprises the intersection's south leg, provides access to Old Town Fairfax and George Mason University to the south.

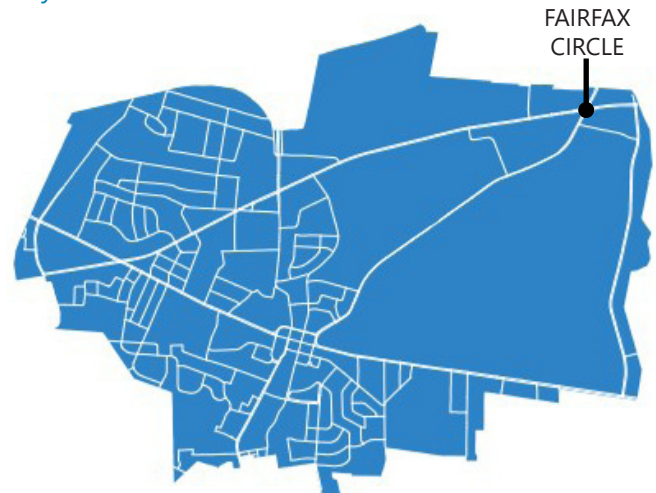
The absence of a well-connected street grid in the vicinity of Fairfax Circle hampers multimodal connectivity in the area. Drivers must travel through the intersection even for local trips, placing an even greater traffic demand burden on the intersection. Pedestrians, bicyclists, transit riders, and others not traveling in private vehicles also have limited options to travel through the area and must use the primary intersection alongside high-speed, high-volume traffic. The functional street grid map from the City of Fairfax 2035 Comprehensive Plan provides a stark illustration of the limited roadway connectivity in the city's northeast corner where Fairfax Circle is located.

This chapter summarizes existing conditions and specific issues observed for each of the primary travel modes (pedestrian, bicycle, transit, and auto) and a multimodal safety analysis. Along with the vision and goals, these existing conditions help inform the needs and alternatives evaluation criteria.

Regional Roadway Connections



City of Fairfax Functional Street Grid



SOURCE: 2035 Comprehensive Plan

Pedestrian

Fairfax Circle can be an intimidating environment for people navigating on foot or by mobility aid. While there is continuous sidewalk coverage through most of the area, sidewalks feature minimal or no buffers, which places pedestrians close to vehicles traveling at relatively high speeds. The high number of active driveways – there are 25 driveways located within 300 feet of the intersection – dramatically increases the number of potential conflict points and degrades the pedestrian experience.

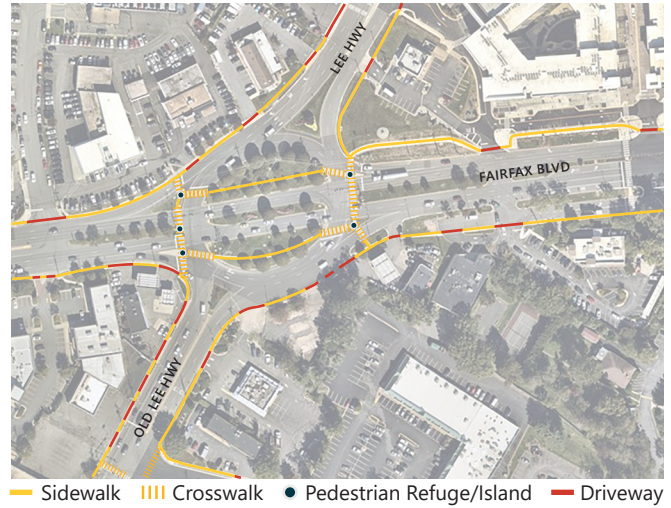
Crossing the intersection is both challenging and time-consuming due to crossing distances, limited sight lines to destinations on the far side of the intersection, and multi-stage crossings with long wait times for walk signals. The presence of slip lanes on each approach creates additional crossings that increase pedestrians' exposure to vehicular traffic and substantially lengthen the time it takes to cross the intersection. Pedestrian safety and comfort may also be impacted due to driver distraction. The intersection's configuration is confusing for drivers, who are often more focused on lane assignments and other vehicles than they are on non-motorized users.

A lack of crosswalks on the north and south legs of the intersection forces pedestrians to follow a circuitous route through the center islands of the traffic circle; many pedestrians may forego this longer route in favor of crossing Lee Highway and Old Lee Highway at unmarked locations. The figure to the right shows walk-time results for the south leg crossing, which takes more than 5 minutes to traverse and requires pedestrians to travel more than 7 times the pedestrian desire-line distance.

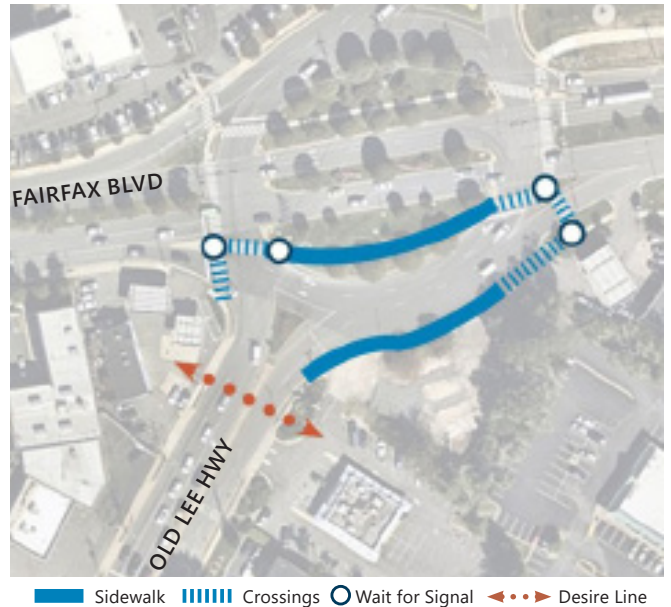
Summary Findings:

- » Uncomfortable pedestrian experience with limited buffers and frequent driveways
- » Potential safety issues with numerous conflict points, high exposure to traffic, and driver distraction
- » Connectivity barriers between quadrants due to long and indirect crossings

Existing Driveways



Example Pedestrian Travel Distance and Time



Total Time (minutes):	5:15
Walk Time (minutes):	1:15
Wait Time (minutes):	4:00
Traveled Distance:	685'
Crow-fly Distance:	95'
% Detour (traveled/crow-fly):	625%
Signalized Crossings:	4

Bicycle

Bicycle activity in and around Fairfax Circle is relatively limited due to a lack of dedicated facilities in the immediate vicinity of the intersection. The relatively few bicyclists who do travel through the area tend to use sidewalks rather than bike in mixed traffic.

Trail connections to the northeast of Fairfax Circle provide access to the Vienna Metro station, and the Wilcoxon Trail just south of the study area links to the Gerry Connolly Cross-County Trail. Multiple transformational trail projects currently in the design or construction phase will substantially improve connectivity within the City and regionally, including the Old Lee Highway side path, the George Snyder Trail, and the I-66 Trail. Without dedicated bicycle facilities in and around Fairfax Circle, however, the intersection will present a network gap, particularly for those looking to bike between Old Town Fairfax and the Vienna Metro.

Summary Findings:

- » Bicycle network gap due to lack of facilities to and through the area
- » Few comfortable options for short trips ideal for bicycling or other low-speed vehicles
- » Increased potential for sidewalk riding and conflicts between bicyclists and pedestrians

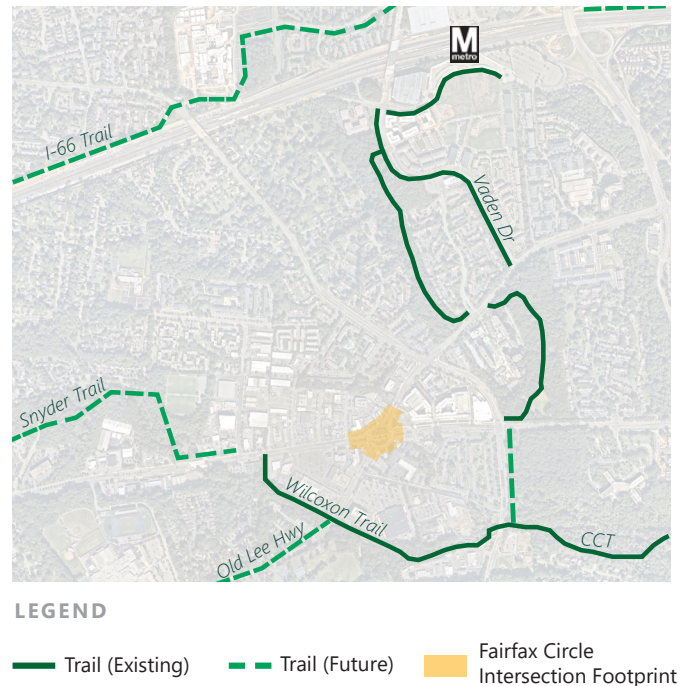
Transit

The Fairfax Circle area is served by all four CUE routes and one Metrobus route, with connections to the Vienna Metro station, Old Town Fairfax, and George Mason University. However, only one bus stop is located within 500 feet of the intersection. The distance between bus stops, combined with long pedestrian travel times through the intersection, complicates transfers and makes it challenging for transit customers to adequately plan for bus trips.

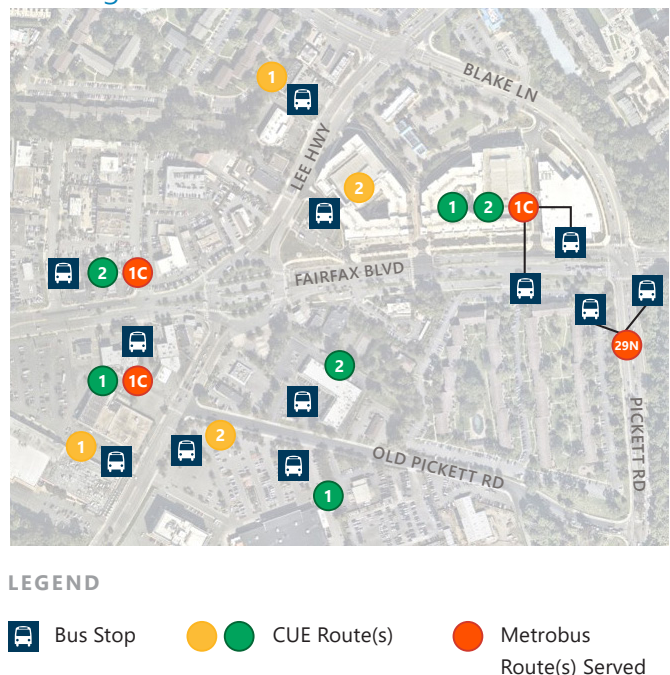
Summary Findings:

- » Large intersection footprint limit opportunities to shorten walks to destinations or improve transfers
- » Uncomfortable transit access experience for pedestrians due to long walks and high exposure to traffic

Existing and Planned Bike Trails



Existing Bus Service



Auto

Fairfax Circle is located at the junction of US 29 and US 50, both integral facilities within the regional transportation network. As such, the intersection carries a substantial amount of vehicular traffic – upwards of 35,000 vehicles per day on both Fairfax Boulevard and Lee Highway – particularly during weekday peak periods when it serves both local traffic and pass-through commuter trips.

The predominant movements at the intersection are the through movements on Fairfax Boulevard, which account for nearly half of all peak-hour volumes. There are also substantial through volumes on Lee Highway and Old Lee Highway. The turning movements between the west and north legs of the intersection – vehicles turning from eastbound Fairfax Boulevard onto northbound Lee Highway, and vice versa – represent by far the heaviest turning movements at the intersection. In particular, the exceptionally high volume of southbound right turns in the evening peak period are a key consideration for any potential intersection reconfiguration.

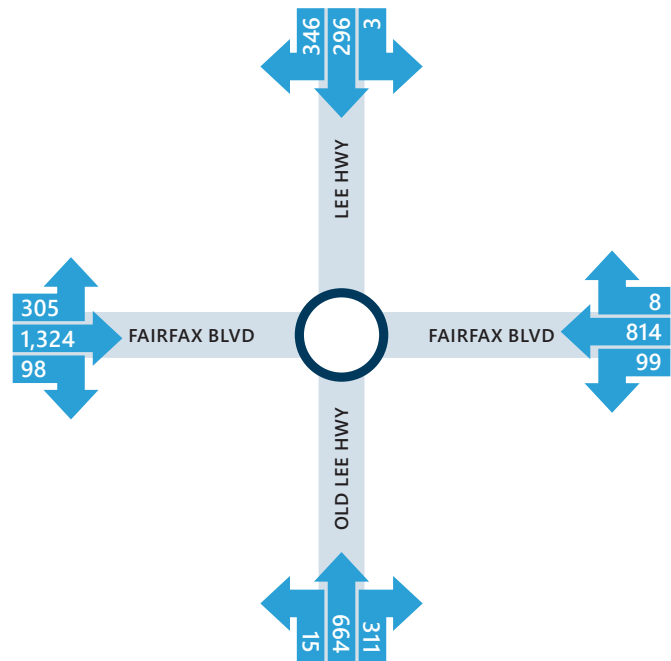
Despite a general perception that the intersection is highly congested, traffic modeling indicates that the intersection operates at acceptable levels strictly from a traffic-flow perspective.

The unorthodox “hamburger roundabout” configuration creates confusion among drivers about lane assignments and wayfinding, which along with numerous and closely spaced driveways leads to conflicts, frustration, and driver distraction.

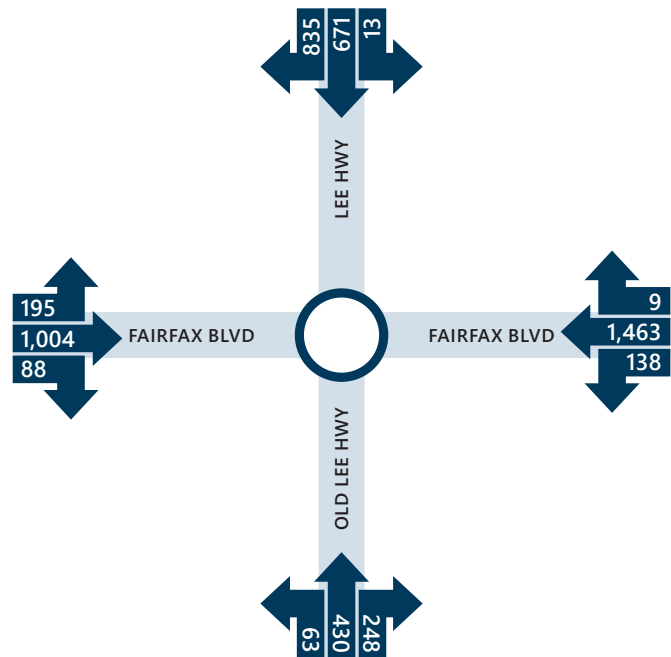
Summary Findings:

- » Unusual non-intuitive configuration leads to driver confusion, distraction, abrupt lane changes and other conflicts.
- » Location on major regional corridors requires accommodation of high traffic volumes in multiple directions.

AM Peak Hour Traffic Volumes



PM Peak Hour Traffic Volumes



NOTE: Vehicles currently must use the Circle in order to make eastbound and westbound left turns | **SOURCES:** Fairfax Circle McDonald's TIS (2020); Scout on the Circle TIS (2014)

Multimodal Safety

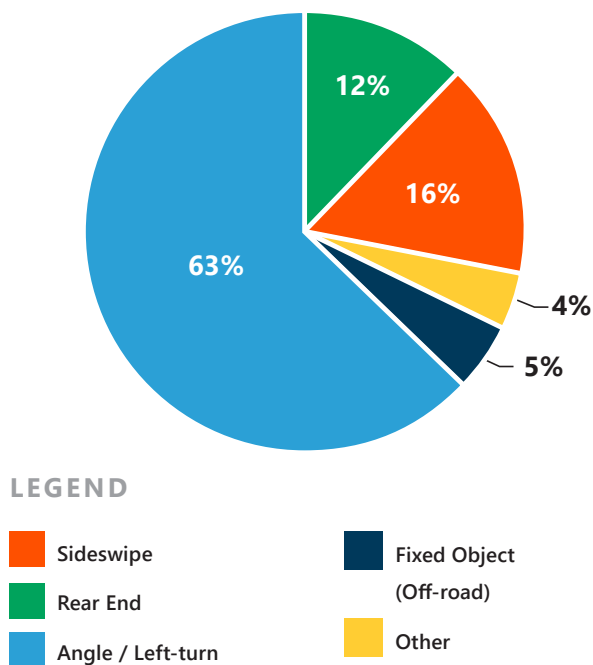
Fairfax Circle has one of the highest crash incidences of any intersection in the city, with 114 reported crashes over the three-year period between 2017 and 2019. There were no fatal crashes and no reported crashes involving pedestrians or bicyclists during that period. Nearly two-thirds of crashes featured angle or left-turn crashes.

Based on a review of crash reports, the primary contributing factors include confusion over lane assignment, conflicts with turns into and out of driveways, and red-light running. The southwest portion of the intersection sees the largest clustering of crashes; this location has a relatively higher concentration of driveways and also features conflicts between vehicles traveling southbound onto Old Lee Highway and those attempting to enter the outer lanes of the traffic circle.

Summary Findings:

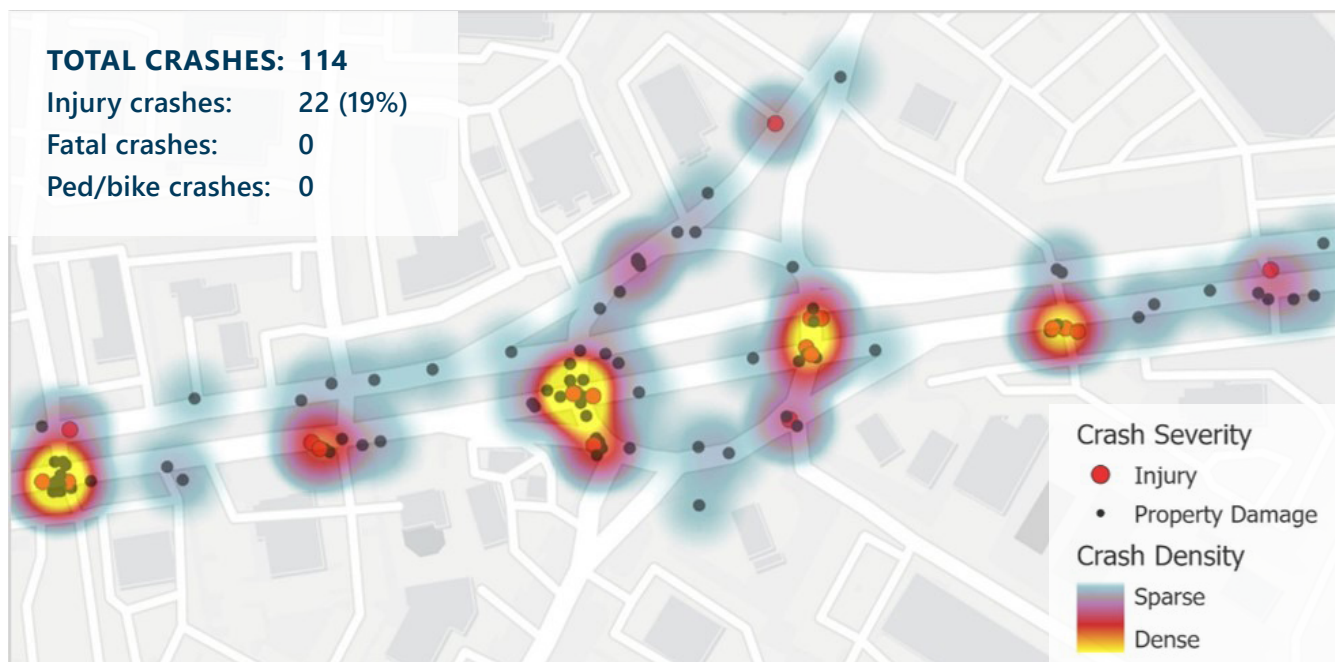
» High number of crashes within the intersection area (average 38 per year).

Crashes by Type | 2017–2019



» Primary crash factors include lane changes, driveway conflicts, and red-light running, likely related to driver confusion and frustration.

Crash Density Map | 2017–2019



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Development Guidance

2035 Comprehensive Plan Guidance

The City of Fairfax 2035 Comprehensive Plan identifies Fairfax Circle as one of the city's five Activity Centers. It envisions a place with relatively dense development featuring a mix of uses and a safe, walkable multimodal network that offers choice and comfort across all modes and supports economic vitality.

The 2035 Comprehensive Plan classifies Fairfax Boulevard, Lee Highway, and Old Lee Highway as Commercial Mains, which are intended to continue to carry relatively high volumes of vehicular traffic but at slower speeds. The recommendations for these

corridors include wide, buffered sidewalks or shared-use paths and consideration of separated bike lanes, and they may feature street-facing retail.

The Comprehensive Plan also calls for multiple grid streets to be created within the Activity Center in order to institute a street grid and create parcel sizes conducive to more compact, urban development. These grid streets, classified as Active Streets in the Comprehensive Plan, feature narrower cross-sections that comfortably accommodate pedestrian activity while allowing circulation by bicyclists and motorized vehicles. Active Streets are intended to enhance walkability and promote a mixed-use neighborhood character.

Proposed Street Grid

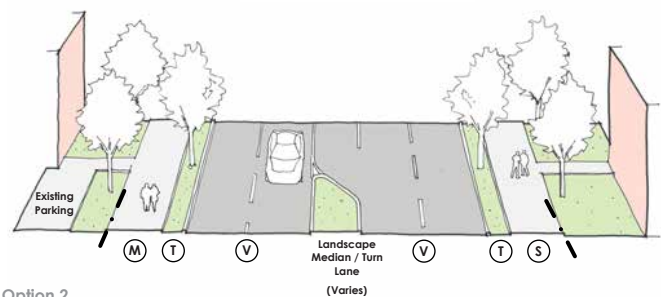


LEGEND

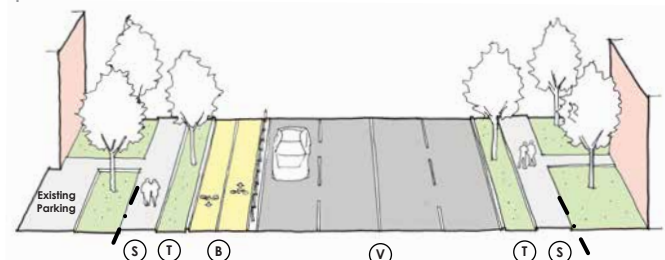
— Limited Connection Residential	— Future Active Streets
— Neighborhood Circulators	— Avenues
— Active Streets	— Boulevards
	— Commercial Mains

Street Typology: Commercial Mains

Option 1



Option 2



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Needs Assessment

Fairfax Circle today is part of a traditional suburban commercial corridor characterized by low density development, wide roadways, and large surface parking lots, with a scale that communicates a car-centric environment. The intersection's "hamburger roundabout" configuration generates confusion and distraction among drivers, leading to elevated risk of multimodal conflicts. Numerous factors – including long crossing distances, the presence of slip lanes, and active driveways – contribute to a relatively hostile environment for rolling, walking, and biking modes.

Substantial multimodal improvements are needed at Fairfax Circle to facilitate the area's transformation to a walkable, mixed-use Activity Center as envisioned in the 2035 Comprehensive Plan.

This study identified several overarching needs that, if appropriately addressed, could substantially improve multimodal safety and connectivity at the intersection and position Fairfax Circle to become a more vibrant and welcoming place.

- 1. Simplifying the intersection.** A simplified intersection design will help dramatically reduce confusion and improve safety across all modes. A simplified design should be accompanied by improved wayfinding to further reduce confusion.
- 2. Right-sizing the roadway infrastructure.** Reconfiguring the intersection at a more

human-centered scale can make the area less intimidating for all users and enable a mixed-use, walkable environment. The intersection must continue to play a key role in the regional roadway system; however, it can do so in a way that enables safe and comfortable conditions for non-motorized users.

- 3. Focusing on the most vulnerable users.** People need to feel safe and comfortable if they are going to spend meaningful time walking, rolling, or biking in the area. This can be accomplished through improvements that reduce crossing distances, install crossing facilities that acknowledge and align with pedestrian desire lines, and provide wide sidewalks with generous buffers to separate pedestrians from vehicular traffic, among other actions.
- 4. Ensuring access to local businesses.** Fairfax Circle is and will continue to be an essential commercial center for the city. Any reconfiguration of Fairfax Circle must ensure that all users can safely and relatively conveniently access businesses located near the intersection.
- 5. Creating a sense of arrival.** Located in the city's northeast corner, Fairfax Circle is a primary point of entry to the City of Fairfax for many residents and visitors. Improved gateway treatments at and near the intersection can clearly demarcate this key access point to the city, welcome all users, and provide an opportunity to convey the city's identity and brand.

11 Public Engagement Summary

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Vision and Goals

The study team engaged in a collaborative process to develop a vision statement and supporting goals for the Fairfax Circle intersection. This effort built on guidance in the 2035 Comprehensive Plan and incorporated public input received through the survey as well as feedback from the Mayor and City Council.

Through the visioning process, six themes were identified and articulated as the key components of the city's vision for the future of Fairfax Circle.

- » Intuitive navigation
- » Operational capacity
- » Connectivity enhancements
- » Safety improvements
- » Welcoming character
- » Development potential

The vision statement and supporting goals crafted around these themes were used through the remainder of the project, informing key decision points in the development of preliminary alternatives and evaluation criteria. The vision and goals will be useful in guiding subsequent planning efforts for Fairfax Circle, including the forthcoming Small Area Plan process.

VISION STATEMENT

The Fairfax Circle Visioning and Multimodal Improvements Project will identify a sustainable mobility solution featuring a roadway configuration and urban form for the Fairfax Circle intersection that is **intuitive** to navigate, maintains adequate **operational capacity**, enhances **connectivity** through human-scale design, improves **safety** and comfort for all users, **welcomes people** to the City of Fairfax, and unlocks **development potential** in the area.

SUPPORTING GOALS



To the greatest extent possible, the intersection and streetscape design should prioritize simplicity and **intuitiveness** for all users regardless of transportation mode.



The intersection design should feature adequate operational capacity across all modes; in particular, the intersection should maintain an acceptable level of traffic **operations**.



The intersection and streetscape design should create safe and direct **multimodal connections** on all levels, including within and between intersection quadrants; to surrounding neighborhoods, trails, Vienna Metro, and Old Town Fairfax; and operationally among transportation modes.



The configuration, design, and scale of the intersection should improve **safety** and comfort for all users, with particular consideration for the non-motorized user experience.



The intersection and streetscape design should retain and enhance the **sense of arrival** into the City of Fairfax that Fairfax Circle currently provides.



The roadway configuration and urban form should enhance the future **development potential** of the surrounding parcels by reducing the intersection's footprint where feasible and identifying spaces available for placemaking elements.

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Preliminary Alternatives

The project team developed a series of preliminary alternatives featuring potential intersection configurations intended to improve multimodal safety and connectivity. These preliminary alternatives were developed in alignment with the Fairfax Circle vision and goals. High-level traffic modeling was used to assess broad-stroke impacts to traffic operations for each preliminary alternative. The alternatives were refined using input received at city staff work sessions.

LEGEND

- Primary Study Roadway
- Potential Grid Street (beyond this project)
- Potential Quadrant Roadway (beyond this project)
- Trail (Existing)
- - - Trail (Future)
- ➔ Potential Greenway Connection
- * Potential Gateway Element



No Build

This alternative retains the existing intersection configuration.



Modified "Hamburger"

This alternative implements modest improvements to the existing "Hamburger Circle" by closing slip lanes and reducing pedestrian exposure. It also adds new crosswalks with pedestrian beacons (HAWK or RRFB) on the north and south legs.



Traditional Intersection (with skew)

This alternative replaces the circle with a traditional four-legged signalized intersection using the existing alignment of Lee Hwy. and Old Lee Hwy.



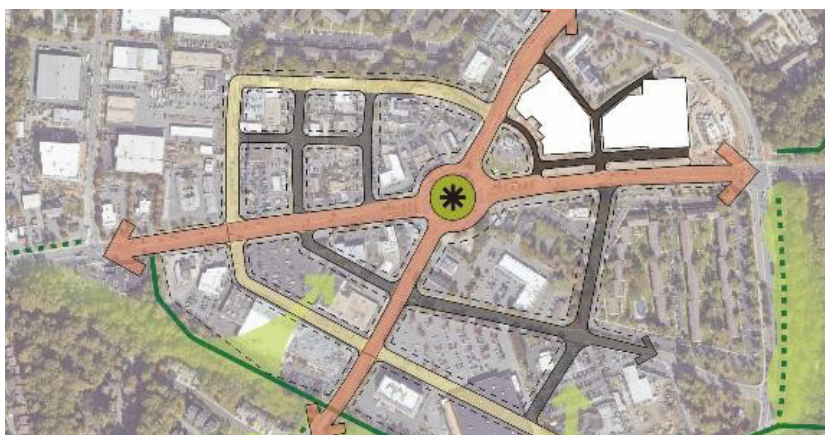
Traditional Intersection (with realignment)

This alternative replaces the circle with a traditional four-legged signalized intersection, but realigns Lee Hwy. and Old Lee Hwy. to eliminate the skew in the intersection.



Split Intersection

This alternative eliminates the circle and splits the existing intersection into two signalized intersections, substantially realigning the Old Lee Hwy. connection to Fairfax Blvd. to the west of its current location.



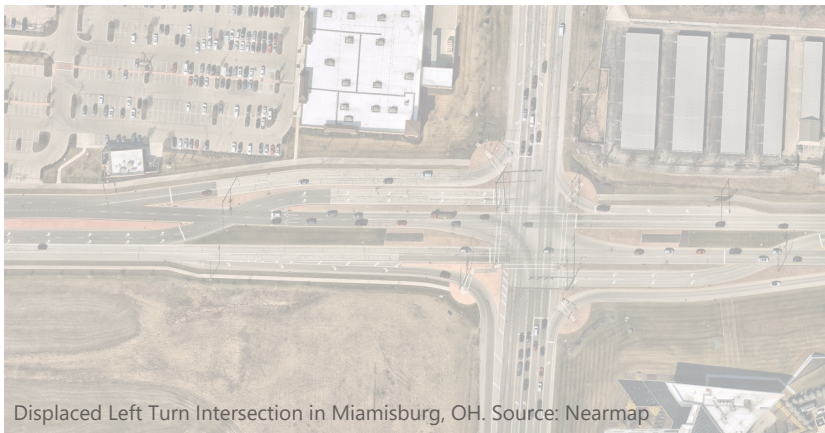
Multilane Roundabout

This alternative retains the circular configuration, removing slip lanes, through lanes, and signals to create a traditional multilane roundabout.



Roundabout with Grade Separation

This alternative retains the circle configuration, removing slip lanes and signals to create a roundabout; it also removes the heaviest volumes (through movements on Fairfax Blvd.) from the intersection by placing them below-grade.



Displaced Left Turn Intersection in Miamisburg, OH. Source: Nearmap

Displaced Left Turn Intersection

This alternative replaces the traffic circle with a traditional four-legged signalized intersection, but crosses eastbound left turns in advance of the intersection to remove that volume and conflict point from the primary intersection.



Quadrant Roadway Intersection

This alternative replaces the traffic circle with a traditional four-legged signalized intersection; it utilizes a new roadway through the southwest quadrant to accommodate left turns, enabling a smaller footprint for the primary intersection.

8

Evaluation Process

The evaluation process built upon the collaborative visioning process, with the evaluation criteria flowing directly out of the supporting goals. This was done to help ensure that potential benefits and impacts associated with each preliminary alternative would be considered in a holistic manner aligned with the vision.

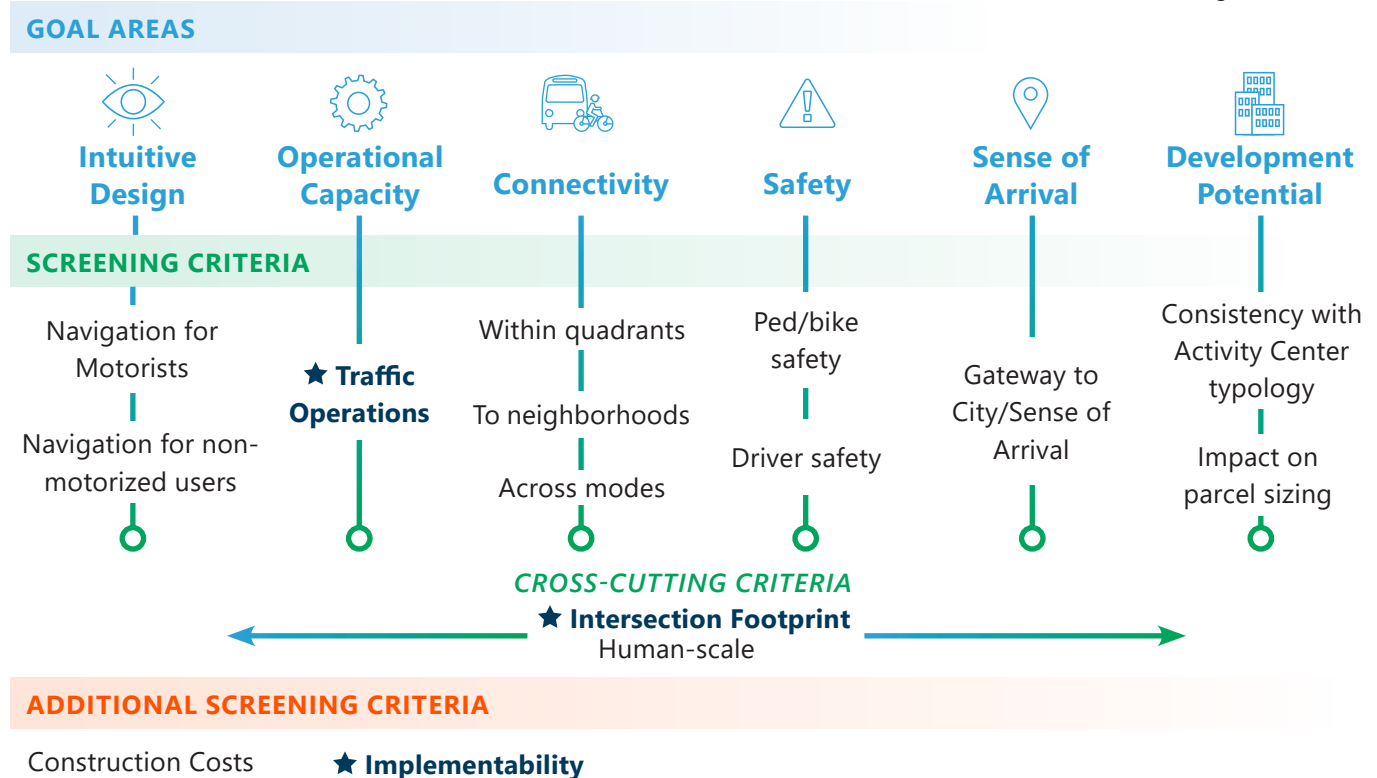
In the evaluation process, certain criteria emerged as particularly consequential to the potential success of each alternative ("first-tier" criteria). If any one of these criteria are violated in the evaluation of a particular alternative, it may jeopardize the alternative's viability.

These first-tier criteria included:

- » **Traffic Operations.** To be viable, alternatives must be able to accommodate existing traffic volumes.
- » **Intersection Footprint.** To be viable and align with Comp Plan, alternatives should not substantially increase the intersection's footprint.
- » **Implementability.** To be viable, alternatives should entail relatively low to moderate levels of complexity to implement.






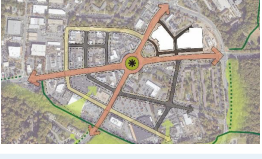
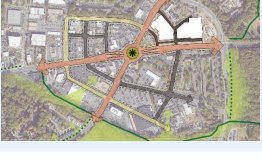


Mapping of Vision & Goals to Evaluation Criteria

★ First Tier Screening Criteria



Through the evaluation process, three alternatives were identified for deeper consideration, including additional traffic analysis and development of concept drawings to provide more detail on potential intersection configurations at Fairfax Circle.

Evaluation Process Results

PRELIMINARY OPTION	EXAMPLE	STUDY RECOMMENDATION <i>Primary Reasons Not Advanced</i>
No Build Scenario		Baseline - To Be Considered in Final Evaluation of Preferred Alternative
Modified Hamburger		Tabled - May Be Considered at Later Date <i>Low scores for safety and intuitive design</i>
Traditional Intersection (with skew)		Advanced for Further Analysis
Traditional Intersection (realigned Old Lee Hwy)		Tabled - May Be Considered at Later Date <i>Complexity and barriers to implementation</i>
Split Intersection		Tabled - May Be Considered at Later Date <i>Complexity and barriers to implementation</i>
Multilane Roundabout		Tabled - May Be Considered at Later Date <i>Likely adverse impacts to traffic operations</i>
Roundabout with Grade Separation		Advanced for Further Analysis
Displaced Left Turn Intersection		Tabled - May Be Considered at Later Date <i>Intersection footprint likely incompatible with 2035 Comprehensive Plan</i>
Quadrant Roadway Intersection		Advanced for Further Analysis

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Alternative Concepts

Three alternatives were identified for additional exploration based on their performance under the evaluation criteria:

- » Traditional Intersection (with skew)
- » Roundabout with Grade Separation
- » Quadrant Roadway Intersection

These three alternatives were deemed most in line with the evaluation criteria – and thus consistent with the vision and goals – from among the full array of preliminary alternatives. It should be noted that this does not preclude other preliminary alternatives from consideration for further analysis at a later date.

Further traffic analysis was performed for each of the three alternatives to develop an informed understanding of the roadway cross-sections that may be required for each alternative, including number of lanes and location of dedicated turn lanes. As these alternatives are conceptual, these details may change in the final plan.

An annotated concept drawing was developed for each of the three alternatives to explore and illustrate potential cross-sections, roadway alignments, and pedestrian facilities. For this study, the concepts do not explore bicycle or transit facilities or changes to access management, but these elements should be included in the final plan.

New grid streets, consistent with the Activity Center roadway typologies, are transparently overlaid on the concept drawings; unless otherwise noted, the configuration and location of these grid streets are not integral to the alternative but are intended to demonstrate a possible future condition for the quadrants surrounding the Fairfax Circle intersection.

Concept drawings for the three alternatives can be found on the following pages.

Alternative Concept #1: Traditional Intersection (with skew)

This alternative replaces the circle with a traditional four-legged signalized intersection using the existing alignment of Lee Hwy. and Old Lee Hwy. The southbound approach maintains a slip lane to accommodate the exceptionally heavy southbound right-turn volumes.

Advantages

- » Smaller intersection footprint reduces crossing distances, conflict points, and associated exposure for pedestrians; crossing distances range from approx. 60' to 80' compared to 150' to 400' in the No Build alternative.
- » Substantially reduces east-west pedestrian travel times by adding crosswalks on north and south legs.
- » Traditional intersection configuration is more intuitive and reduces confusion.
- » Reclaims considerable amount of space in northwest and southwest quadrants that can be dedicated to other uses.

Challenges

- » Continued need for dedicated turn lanes, particularly on west leg, limits the extent to which crossing distances can be reduced for pedestrians; this has implications for connecting the various quadrants of the Activity Center.
- » Does not allow for diversion of traffic volumes away from the intersection; as a result, the intersection needs to accommodate similar traffic volumes as it does today.
- » Does not preserve iconic circular configuration of current intersection.

Compare To: Kamp Washington intersection at Fairfax Boulevard, Lee Highway, and Main Street



Alternative Concept #2: Roundabout with Grade Separation

This alternative retains the circle configuration, removing slip lanes and signals to create a roundabout. Through movements on Fairfax Blvd. are placed below grade, thereby removing the heaviest volumes from the intersection. The intersection design likely would require bypass lanes for southbound and northbound right turns, which likely are too heavy to be accommodated within a single-lane roundabout.

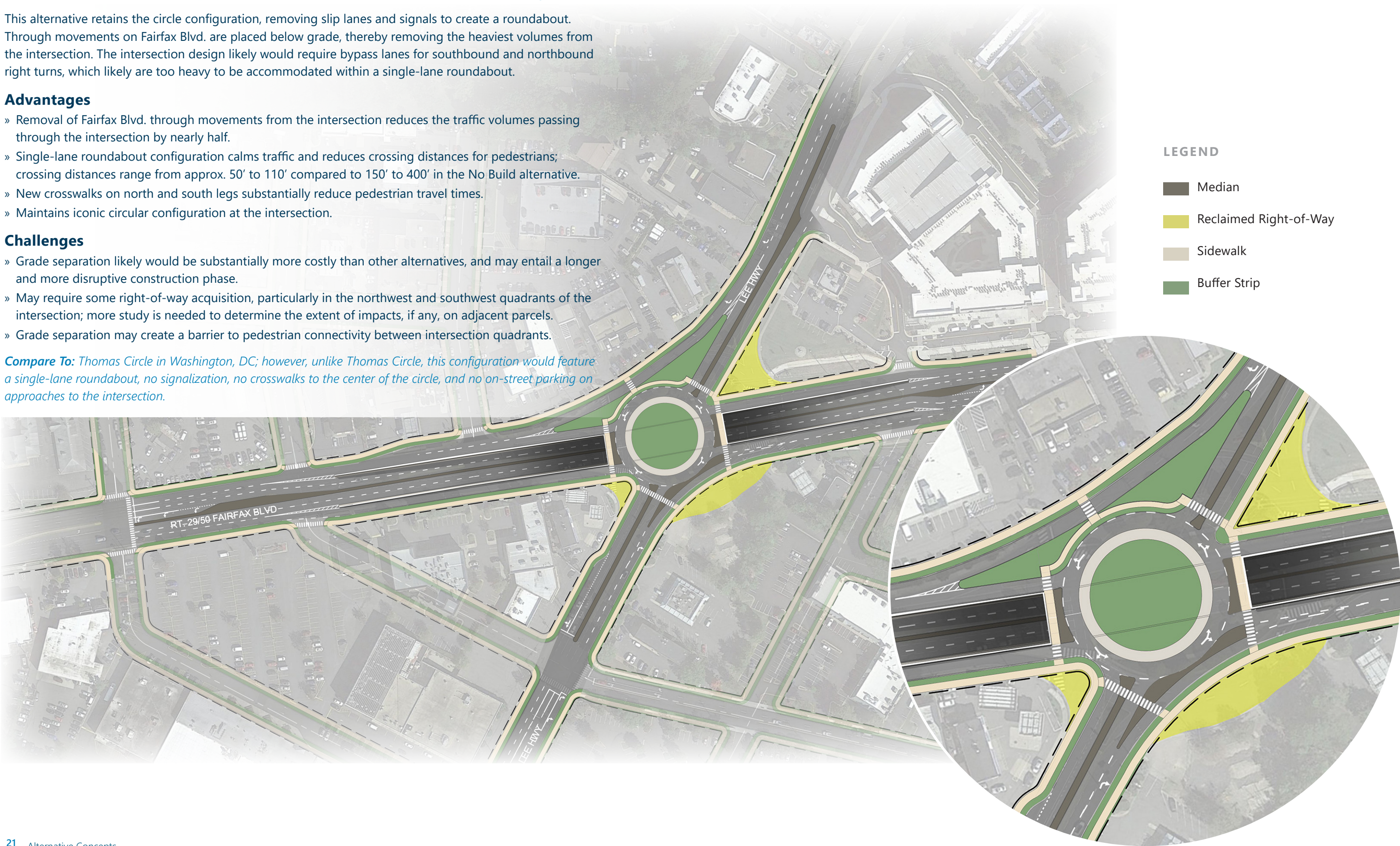
Advantages

- » Removal of Fairfax Blvd. through movements from the intersection reduces the traffic volumes passing through the intersection by nearly half.
- » Single-lane roundabout configuration calms traffic and reduces crossing distances for pedestrians; crossing distances range from approx. 50' to 110' compared to 150' to 400' in the No Build alternative.
- » New crosswalks on north and south legs substantially reduce pedestrian travel times.
- » Maintains iconic circular configuration at the intersection.

Challenges

- » Grade separation likely would be substantially more costly than other alternatives, and may entail a longer and more disruptive construction phase.
- » May require some right-of-way acquisition, particularly in the northwest and southwest quadrants of the intersection; more study is needed to determine the extent of impacts, if any, on adjacent parcels.
- » Grade separation may create a barrier to pedestrian connectivity between intersection quadrants.

Compare To: *Thomas Circle in Washington, DC; however, unlike Thomas Circle, this configuration would feature a single-lane roundabout, no signalization, no crosswalks to the center of the circle, and no on-street parking on approaches to the intersection.*



Alternative Concept #3: Quadrant Roadway Intersection

This alternative replaces the traffic circle with a traditional four-legged signalized intersection. All left-turns are prohibited at Fairfax Circle and are rerouted to a new roadway connection through the southwest quadrant, enabling a smaller footprint for the primary intersection. The southbound approach maintains a slip lane to accommodate the exceptionally heavy southbound right-turn volumes. The precise location, alignment, and tie-in of the quadrant roadway connection requires additional study.

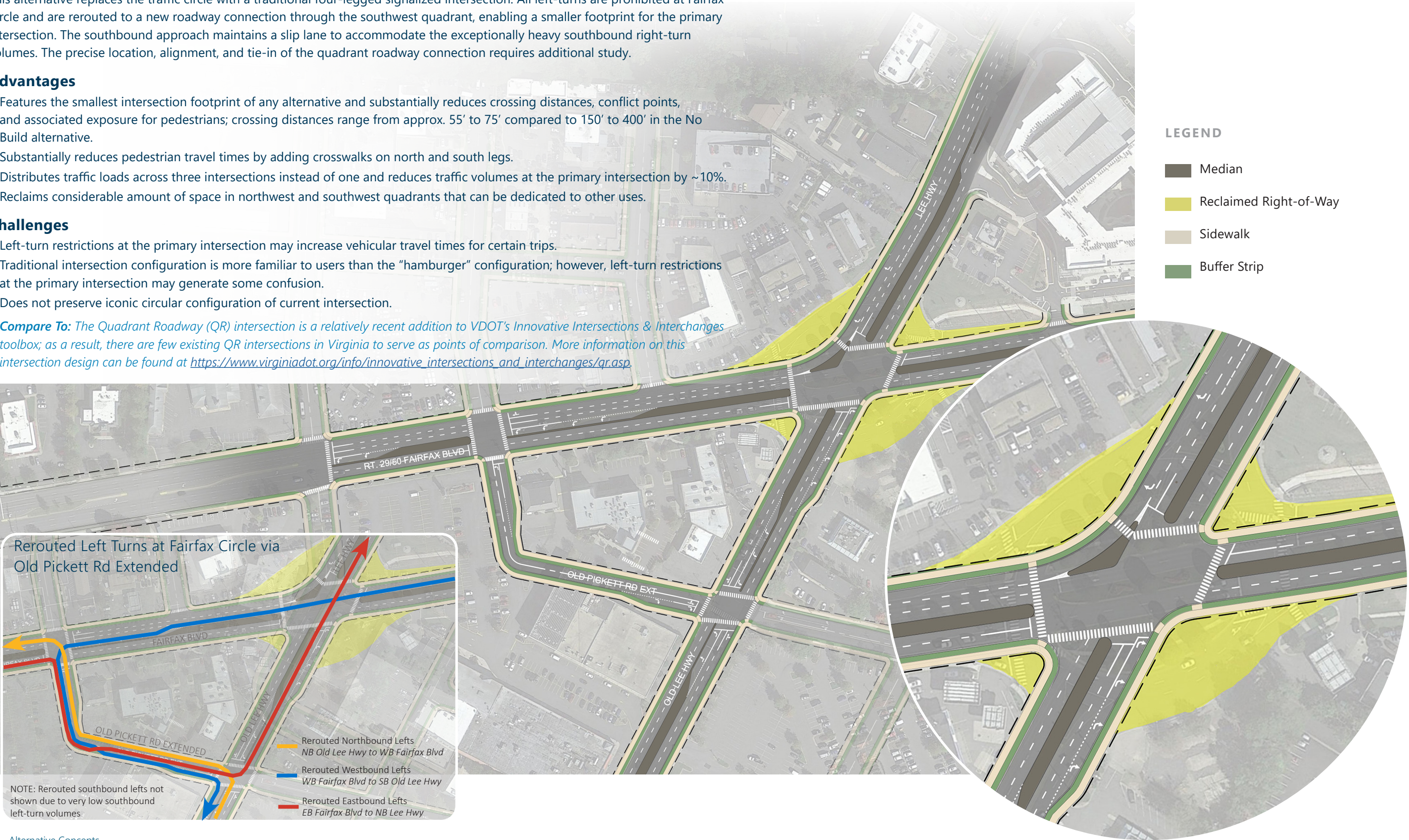
Advantages

- » Features the smallest intersection footprint of any alternative and substantially reduces crossing distances, conflict points, and associated exposure for pedestrians; crossing distances range from approx. 55' to 75' compared to 150' to 400' in the No Build alternative.
- » Substantially reduces pedestrian travel times by adding crosswalks on north and south legs.
- » Distributes traffic loads across three intersections instead of one and reduces traffic volumes at the primary intersection by ~10%.
- » Reclaims considerable amount of space in northwest and southwest quadrants that can be dedicated to other uses.

Challenges

- » Left-turn restrictions at the primary intersection may increase vehicular travel times for certain trips.
- » Traditional intersection configuration is more familiar to users than the “hamburger” configuration; however, left-turn restrictions at the primary intersection may generate some confusion.
- » Does not preserve iconic circular configuration of current intersection.

Compare To: The Quadrant Roadway (QR) intersection is a relatively recent addition to VDOT's Innovative Intersections & Interchanges toolbox; as a result, there are few existing QR intersections in Virginia to serve as points of comparison. More information on this intersection design can be found at https://www.virginiadot.org/info/innovative_intersections_and_interchanges/qr.asp.



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Next Steps

The Fairfax Circle Visioning and Multimodal Intersection Alternatives Study centered on identifying potential improvements and reconfigurations to improve multimodal safety, enhance connectivity, and facilitate the area's continued transition to a vibrant, walkable, mixed-use Activity Center. The important analysis and ideation conducted as part of this effort has deepened the City's understanding of what is needed and what may be possible at Fairfax Circle. The vision and goals established through this study can be carried forward to inform subsequent stages of study and design for the intersection and the Activity Center.

The scope of this study allowed for traffic modeling sufficient to gain a high-level understanding of traffic impacts at the Fairfax Circle intersection for each alternative considered here. Additional multimodal

transportation and traffic analysis is needed to better understand the extent and intensity of impacts, with consideration of impacts and opportunities from a mobility network perspective that extends beyond just the Fairfax Circle intersection itself.

As a next step, the City of Fairfax intends to initiate the development a Small Area Plan. That planning process will explore in detail the potential uses, street network, public amenities, and other placemaking elements for the Fairfax Circle Activity Center. Public engagement will be a substantial component of the Small Area Plan development process. That process in turn will inform additional refinements or revisions to the alternatives and the selection of a Preferred Alternative for the Fairfax Circle intersection.

