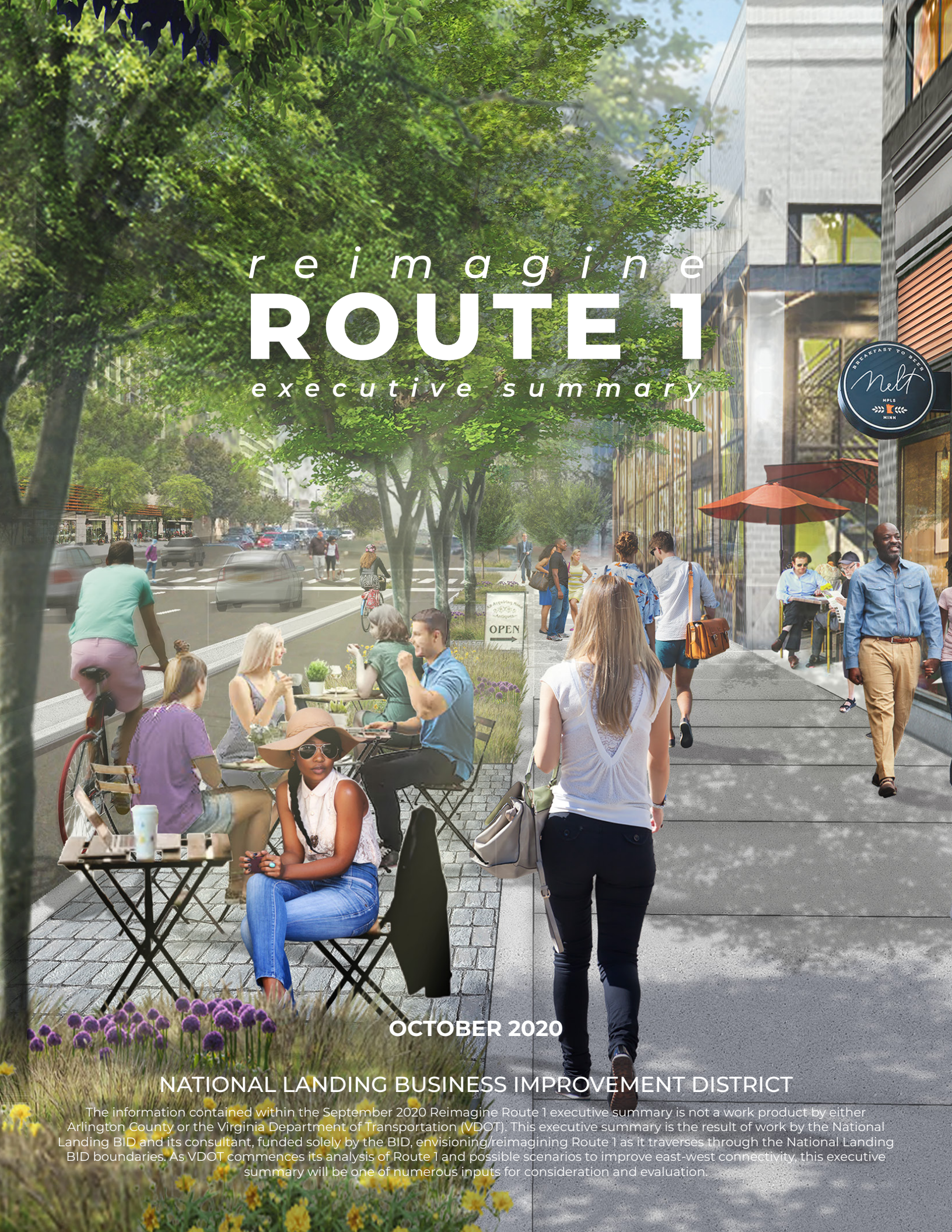


reimagine ROUTE 1

executive summary

OCTOBER 2020

NATIONAL LANDING BUSINESS IMPROVEMENT DISTRICT

The information contained within the September 2020 Reimagine Route 1 executive summary is not a work product by either Arlington County or the Virginia Department of Transportation (VDOT). This executive summary is the result of work by the National Landing BID and its consultant, funded solely by the BID, envisioning/reimagining Route 1 as it traverses through the National Landing BID boundaries. As VDOT commences its analysis of Route 1 and possible scenarios to improve east-west connectivity, this executive summary will be one of numerous inputs for consideration and evaluation.


ROUTE 1
AREA
TODAY
PENTAGON
I-395
N
NATIONAL LANDING
DOWNTOWN DISTRICT
M
CRYSTAL CITY
PENTAGON CITY
NATIONAL LANDING
M
M
15TH STREET
18TH STREET
M
23RD STREET
AIRPORT ACCESS ROAD
26TH STREET
RONALD REAGAN WASHINGTON NATIONAL AIRPORT
POTOMAC YARD
ROUTE 1
NATIONAL
LANDING
PENTAGON CITY
CRYSTAL CITY
POTOMAC YARD
DEVELOPED BY:
TOOLE
DESIGN

reimagine ROUTE 1

executive summary

National Landing is Arlington's largest downtown, home to major employers, a variety of housing and hotel options, and views of the Potomac River. Its regional connectivity is unmatched, with Washington, D.C. just a few metro stops away and Reagan National Airport offering ever-expanding service to the world beyond. As development of all kinds continues to flock to the area, the National Landing Business Improvement District (BID) has identified the transformation of Route 1 into an multi-modal urban boulevard as the largest and most comprehensive opportunity to achieve the vision for a truly walkable, connected urban downtown.

Reimagine Route 1 is a bold vision for this important roadway, presenting three design concepts that create the kind of memorable place great streets are made of. Route 1 stakeholders came together to envision what was possible, inform the BID's perspective in upcoming planning efforts, and inspire the community. These three proposed concepts represent but a few ways to achieve project objectives with numerous other variations possible. This report does not reflect the views of Arlington County nor the Virginia Department of Transportation (VDOT). Decisions around facility design will be made by VDOT and based on engineering-based analysis as well as community engagement in collaboration with Arlington County. Additional details are available in the full *Reimagine Route 1* report.

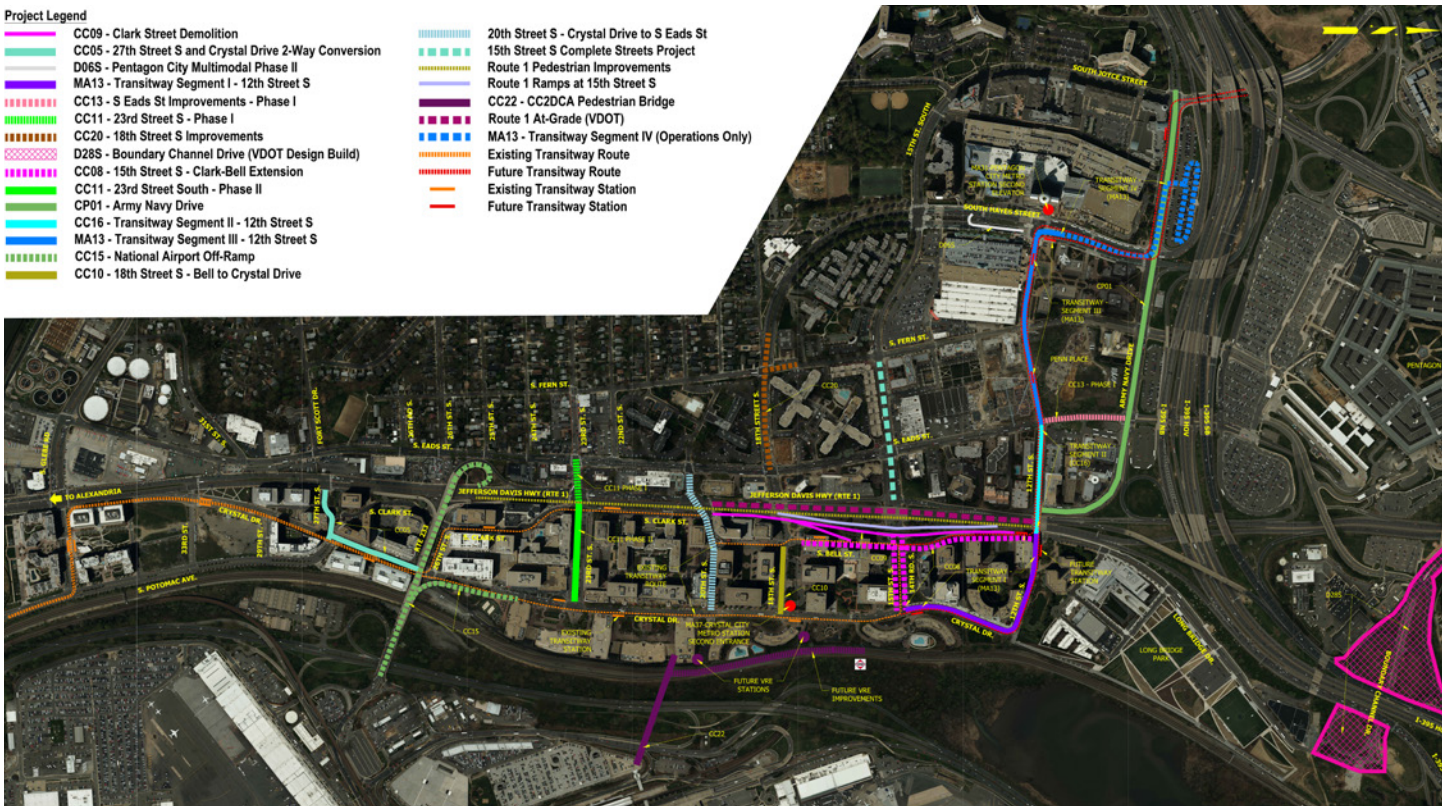
ROUTE 1 TODAY

Route 1 was designed to serve the auto-centric development trends of the mid-20th Century, with the primary objective of moving cars through the area as quickly as possible. As a result, a suburban highway now stands where National Landing's main street belongs, putting regional expectations above local needs. The elevated intersections and highway geometries divide the community inhibiting not only connectivity and access, but also the ability for the area to come together as a singular, downtown district.

ROUTE 1 TOMORROW

The reimagined Route 1 will be designed to move people in a variety of modes while also creating an actual place where businesses will want to invest, employees will want to work, and residents will want to live. As an at-grade, multi-modal urban boulevard supported by the existing finer grain of local streets, Route 1 will serve to knit the downtown district together unlocking significant economic and real estate value, catalyzing signature redevelopment, improving safety, and enhancing mobility for all users.

ARLINGTON COUNTY CAPITAL IMPROVEMENT PLAN (2019 - 2028)



$270
MILLION IN CIP PROJECTS

21
MULTIMODAL PROJECTS

NEARLY **50%** INCREASE IN PLANNED PROTECTED BICYCLE FACILITIES

The Route 1 project is but one of many projects poised to transform National Landing into the most connected downtown in the Country. Major regional transportation projects like the I-395 Hot Lanes, the CC2DCA Intermodal Connector, the new Crystal City VRE station, an expanded Long Bridge, and the promise of expanded regional and intercity rail opportunities combined with an impressive collection of 21 underway multimodal improvements are poised to make this vision a reality.

Arlington County has committed over $270 million in multimodal transportation infrastructure investment to support future growth and expand transportation choice through a focus on improving non-vehicular options. Specific projects include a new Crystal City Metro Station entrance along Crystal Drive, the transitway extension to Pentagon City, a new, modern Pentagon City elevator, extensive bicycle network enhancements, and multimodal street network improvements throughout National Landing. The provided map illustrates the extent and scope of Arlington's planned multimodal transportation capital projects. Of particular interest is the emphasis on east - west connectivity that in combination with the removal of the Route 1 elevated highway configuration would succeed in physically and psychologically uniting both sides of National Landing.

THE CRYSTAL CITY SECTOR PLAN- Adopted in 2010 by the Arlington County Board, the Sector Plan establishes land use, zoning, and transportation policies for the greater National Landing area. The Crystal City Sector Plan includes the conversion of Route 1 into an urban boulevard to improve connectivity, and supporting a safer, more comfortable, and more vibrant pedestrian environment. It does not, however, anticipate removing the elevated highway portion, a reflection of the political environment and continued emphasis on vehicular access at that time.

The Sector Plan, however, recognizes the "illustrative" nature of the Concept Plan noting that it "represents just one way properties could be developed in accordance with the recommendations... and the exact location, scale, and design character of public and private improvements may ultimately vary in detail" but should be consistent with the spirit of this plan." This flexibility enables the Sector Plan to evolve with changing urban and transportation trends that reflect the intentions of the approved plan.

GUIDING PRINCIPLES
FOR A GREAT STREET

Using urban highway removal and Great Streets best practices precedent from around the Country, the National Landing BID and area stakeholders identified principles and objectives to guide the transformation of Route 1:

1. ACCESSIBLE
The new Route 1 should allow people to access the many current and future destinations in National Landing by a variety of travel modes.

2. SAFE
It must be and feel safe to cross and walk along for people not in cars.

3. HUMAN SCALED
Route 1 should be designed to prioritize people, not cars, and create a place where people want to visit and spend time.

4. INTUITIVE & ATTRACTIVE
It must be a welcoming gateway that is easy for residents, workers, and visitors to navigate.

5. SMART AND FLEXIBLE
The new Route 1 must be adaptable to emerging trends and new travel modes, as well as non-transportation uses like street festivals or markets.

6. VIBRANT
It will be an exciting destination where people want to be, with active sidewalks and public spaces.

Rendering of Route 1 redesign Concept A

OBJECTIVES

Reimagine Route 1 has four primary objectives to enhance connectivity, vibrancy, economic development, and sustainability in National Landing:

MEND THE URBAN FABRIC

The new Route 1 will strengthen east-west connectivity by removing the freeway as a physical and psychological barrier and creating safe, comfortable, and convenient crossings. As buildings renovate and develop, active uses on the ground floor will front Route 1 to provide desirable destinations and engaging experiences. With Route 1 functioning as a magnetic boulevard, people will move freely between neighborhoods and even to Reagan National Airport.

CREATE A WALKABLE, VIBRANT, AND SAFE COMMUNITY

Route 1 will be designed to prioritize local trips and experiences, while continuing to provide regional connectivity. Walking, biking, and transit will not only be the most sustainable options, but the easiest and most enjoyable ways to get around. It will improve safety with features like shortened pedestrian crossing distances, narrower vehicle travel lanes, dedicated space for all modes, and automated enforcement.

Route 1 will go beyond the basics and become a “Great Street,” one where people-centric spaces are designed for comfort with wide sidewalks and amenities like café seating, lighting, and lush shade trees. Great Streets invite people to stroll along with features like window shopping, public art, unique architectural details, quality materials, and useful destinations that create a memorable street with a distinct identity.

DEFINE A DEDICATED SPACE FOR ALL USERS

Providing a dedicated space where all modes of travel can move safely and comfortably will be critical to health and vibrancy of National Landing. The future street network must be intuitive, attractive, smart, and flexible. It should serve as a gateway that is legible for all users including visitors and the daily users. The re-imagined Route 1 will utilize Light Individual Transportation (LIT) lanes throughout the corridor to accommodate cyclists, micromobility users, and future innovations in non-automobile travel.

ENCOURAGE RESILIENCY AND SUSTAINABILITY

The redesign of Route 1 will help local businesses attract and retain a new generation of worker that values a dynamic, walkable environment. It will also facilitate additional future development by reducing the right-of-way to 140 feet to reclaim developable land. In other cities that have converted freeways to urban boulevards, revenue generated by selling the parcels created by demolishing a freeway has been used to help fund infrastructure improvements. Converting land to productive, taxable uses has also resulted in an increase in future assessed property values and improved the city’s tax base in the long term.

SAFETY

Safety for all users and transportation modes is the top priority of this initiative. There are numerous proven strategies available to limit danger to those who are most vulnerable – cyclists and pedestrians. Many of the strategies employed in the concepts focus on increasing visibility, providing buffers, and offering adequate facilities for pedestrians, cyclists, and micromobility users. Several of the elements used in this plan include:

ROAD DIETS |Removing travel lanes or reconfiguring existing lanes can provide opportunities for additional modes to operate within a dedicated right-of-way. Reducing the number of travel lanes can also help improve pedestrian safety by reducing the crossing distances.

CORNER RADII | Cars will drive through a turn at a higher speed if the corner radius is large. By reducing the corner radii of turns throughout the corridor, drivers are more likely to slow down before turns and be aware of crossing pedestrians or cyclists.

MEDIAN AND PEDESTRIAN CROSSING REFUGES |Medians can reduce head-on motor vehicle collisions and provide valuable refuge areas for pedestrians crossing a road in multiple stages. Medians, such as the one proposed in Concept A, are often raised with landscape elements.

VERTICAL SEPARATION | Vertical elements like curbs, concrete island, street furnishing, and landscaping can help create additional layers of separation between vehicular traffic and more vulnerable users like pedestrians, cylists, and micromobility users.

PARKING LANE | In addition to providing parking for shops and restaurants, parking lanes along the corridor could serve as an additional buffer from vehicular traffic.

ALL WALK PHASE | Also known as exclusive pedestrian phase and pedestrian scramble, an all walk phase is a signal movement that only allows pedestrian crossing in all direction, including diagonally, at the same time. It is most effective when high volumes of pedestrians are anticipated.

SPEED LIMITS & SPEED CAMERAS | Speed limits are typically posted based on observed vehicle speeds (usually the 85th percentile speed), which is a function of the roadway design. Increased motor vehicle speeds are associated with greater frequency of crashes. Additionally, roads with a posted speed of 35 mph or higher are linked to significant increases in fatal or serious crashes. While encouraging slower speeds and careful driving through roadway design is preferred, automated enforcement with speed cameras may be necessary to ensure the safety of pedestrians and cyclists.

RED LIGHT CAMERA | Red light cameras throughout the corridor could help discourage red light running and other aggressive driving behaviors.

L.I.T. (LIGHT INDIVIDUAL TRANSPORTATION) LANE | LIT lanes offer a dedicated and improved right of way for multiple personal transportation modes. They are designed for people and goods that move faster than pedestrians but slower than cars. LIT lanes are expected to accommodate traditional bicycles, dockless bike share, emerging personal transportation modes such as electric bicycles and scooters, and future personal transportation innovations that fall within its speed criteria.

ROUTE 1 CONCEPTS

Three concepts for Route 1 have been developed, illustrating alternative ways to meet the project objectives and create a signature street for National Landing. All concepts fit within the 140-foot right-of-way, and each has its own advantages and drawbacks.

These three concept represent but a few potential outcomes with many more possible permutations that could also meet project objectives.

NORTH-SOUTH PROTECTED BICYCLE FACILITY

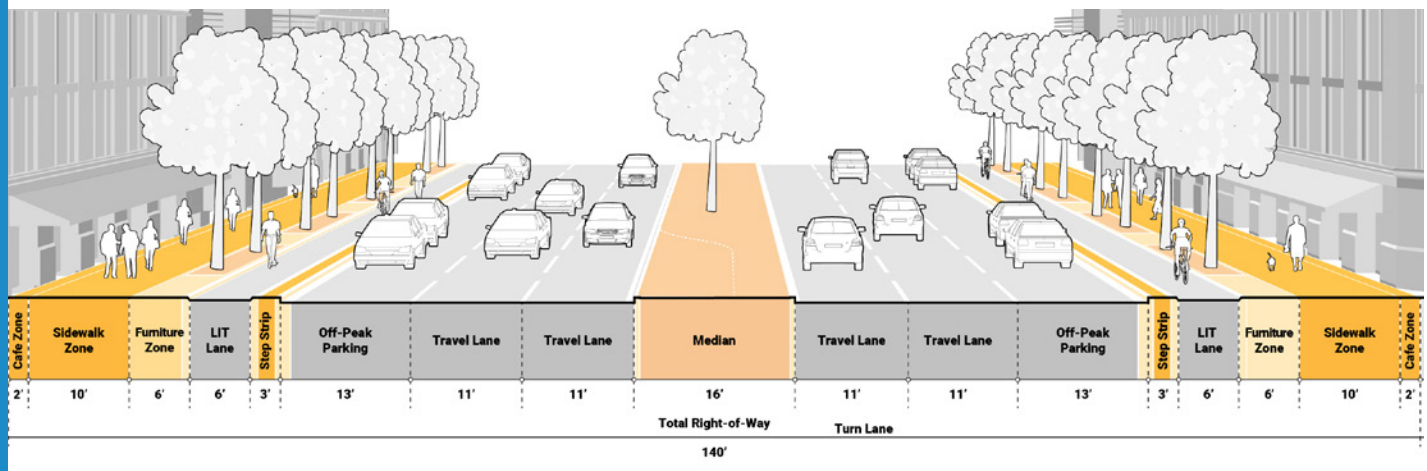
Even though the *Crystal City Sector Plan* calls for North-South protected bicycle facilities, these facilities were not specifically envisioned along Route 1. LIT lanes feature prominently in all three concepts of the reimagined Route 1 because in today's urban environment, it is best practice to accommodate additional modes of personal transportation to better connect people to potential destinations and public transit and to reduce reliance on personal vehicles. By allocating space in the right-of-way to facilities dedicated to personal mobility, the proposed concepts are able to right-size the amount of space reserved for private vehicles and provide space for elements that make for a livable and vibrant streetscape.

Despite the benefits of providing LIT Lanes along Route 1, bicycle facilities along parallel North-South streets in National Landing could offer similar benefits if other priorities required the space currently reserved for LIT lanes. With special accommodations such as parking corrals and bikeshare stations to serve as end of trip facilities for these micromobility devices along the corridor, the vision for connectivity along Route 1 and throughout National Landing could still be achieved.

CONCEPT A

GREEN MEDIAN BOULEVARD

Concept A features six lanes (three in each direction), with a planted median that could serve as a left turn line while still leaving sufficient space for a pedestrian refuge. During off-peak hours, the outer lane on each side is used for on-street parking. Pedestrians have a 10-foot-wide sidewalk and a 6-foot-wide buffered LIT lane serves cyclists and scooter riders. Its tree-lined median creates a lush environment, helps calm traffic, and provides refuge for pedestrians crossing the street.



ADVANTAGES

- Minimal impact to existing traffic by maintaining 3 lanes of travel in either direction
- Landscaped median slows down traffic and serves as an aesthetically pleasing gateway into National Landing
- Median serves as pedestrian refuge island
- Median prevents left-turning vehicles from cutting into the inner lanes along Route 1
- Outer lanes can serve as on-street parking during off-peak hours
- Flexibility in providing left-turn lanes where needed while maintaining pedestrian refuge

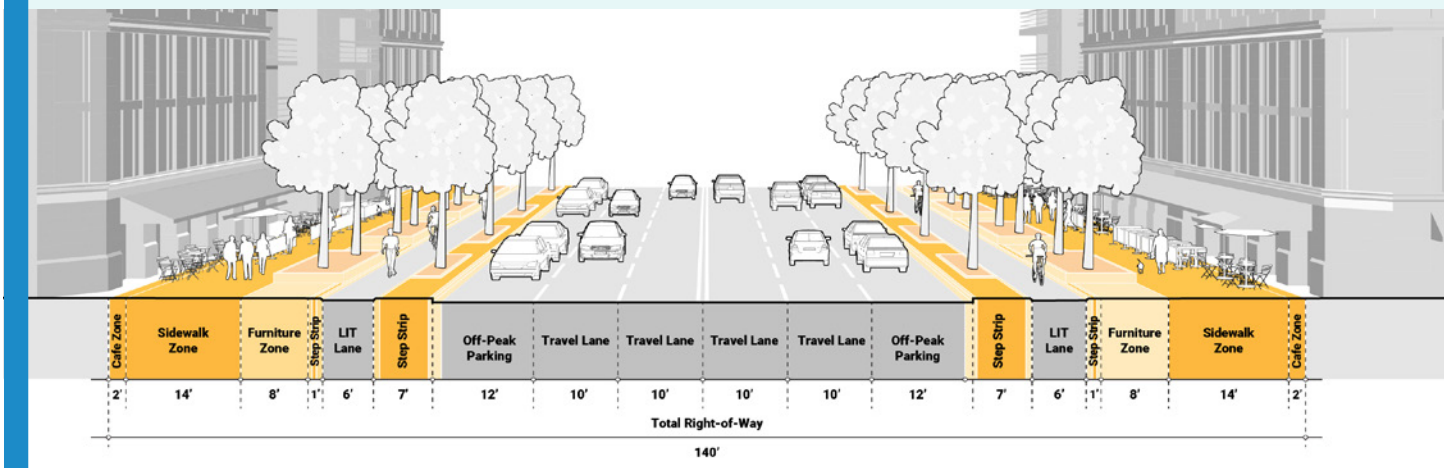
DRAWBACKS

- Widest road profile (86' curb to curb)
- Narrower planting buffers and sidewalks
- Buffer for LIT lane is narrower (3' wide)

CONCEPT **B**

MAXIMUM SIDEWALK BOULEVARD

Concept B has six travel lanes (three in each direction). It prioritizes the pedestrian and retail experience, with spacious 14-foot-wide sidewalks providing space for walking, outdoor dining, and merchandise displays. The wider buffer between vehicle travel lanes and LIT lanes improves comfort and safety for cyclists and scooter riders and is large enough to accommodate a second row of street trees on each side of the road, as well as floating bus stops for transit riders. The design does not have space for on-street parking, a median, or a dedicated turn lane.



ADVANTAGES

- Provides the widest sidewalk zones while maintaining 3 lanes of travel in either direction
- Provides significant space for plantings and landscaping, double row of street trees

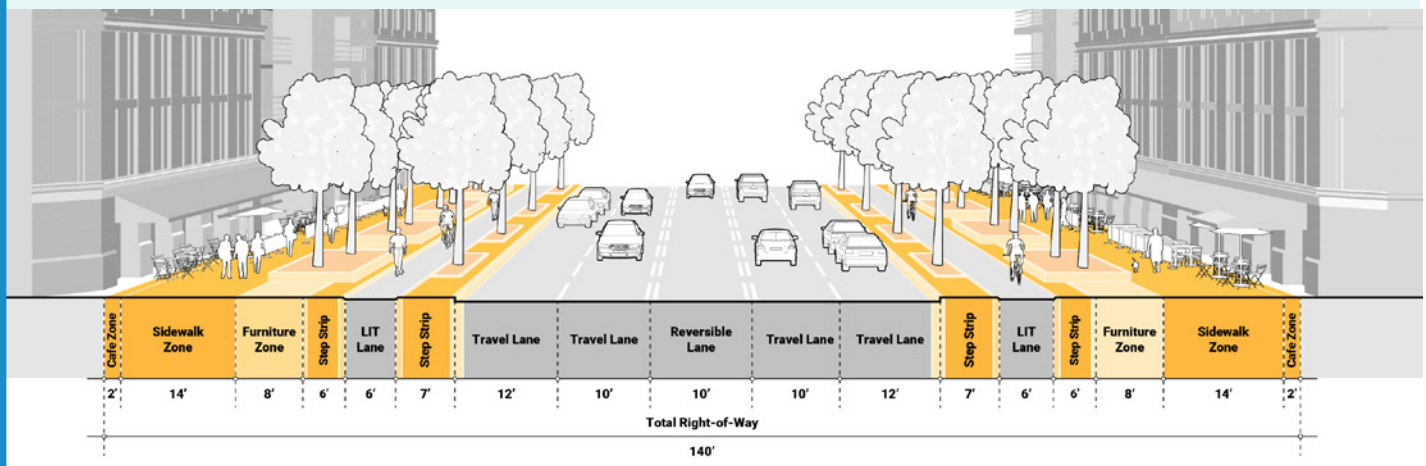
DRAWBACKS

- Widest continuous roadway section (64')
- No landscaped median to calm traffic or serve as pedestrian refuge
- No on-street parking
- Difficult to add left turn lanes if needed

CONCEPT C

FLEXIBLE BOULEVARD

Concept C has five travel lanes, including two dedicated lanes in each direction and a reversible center lane that can change directions to accommodate peak time travel flows. By reducing the curb-to-curb space dedicated to vehicles from six lanes to five, crossing distances for pedestrians are made shorter and more space can be dedicated to non-automotive uses. Although the reversible lanes make efficient use of space, they can be more complicated to operate and less safe for drivers and pedestrians. Like Concept B, its wide sidewalks create space for dining and display, in addition to walking and a wider LIT lane buffer is lined with a second row of street trees. The design does not have space for on-street parking, a median, or a dedicated turn lane.



ADVANTAGES

- 5 total lanes of travel means roadway profile is narrower than Concepts A & B
- Flexible center lane can be open to either direction of travel depending on time of day and events or utilized as a center turn lane
- Widest planting buffers for proposed LIT lanes helps isolate pedestrians, cyclists, and micro-mobility users from the road

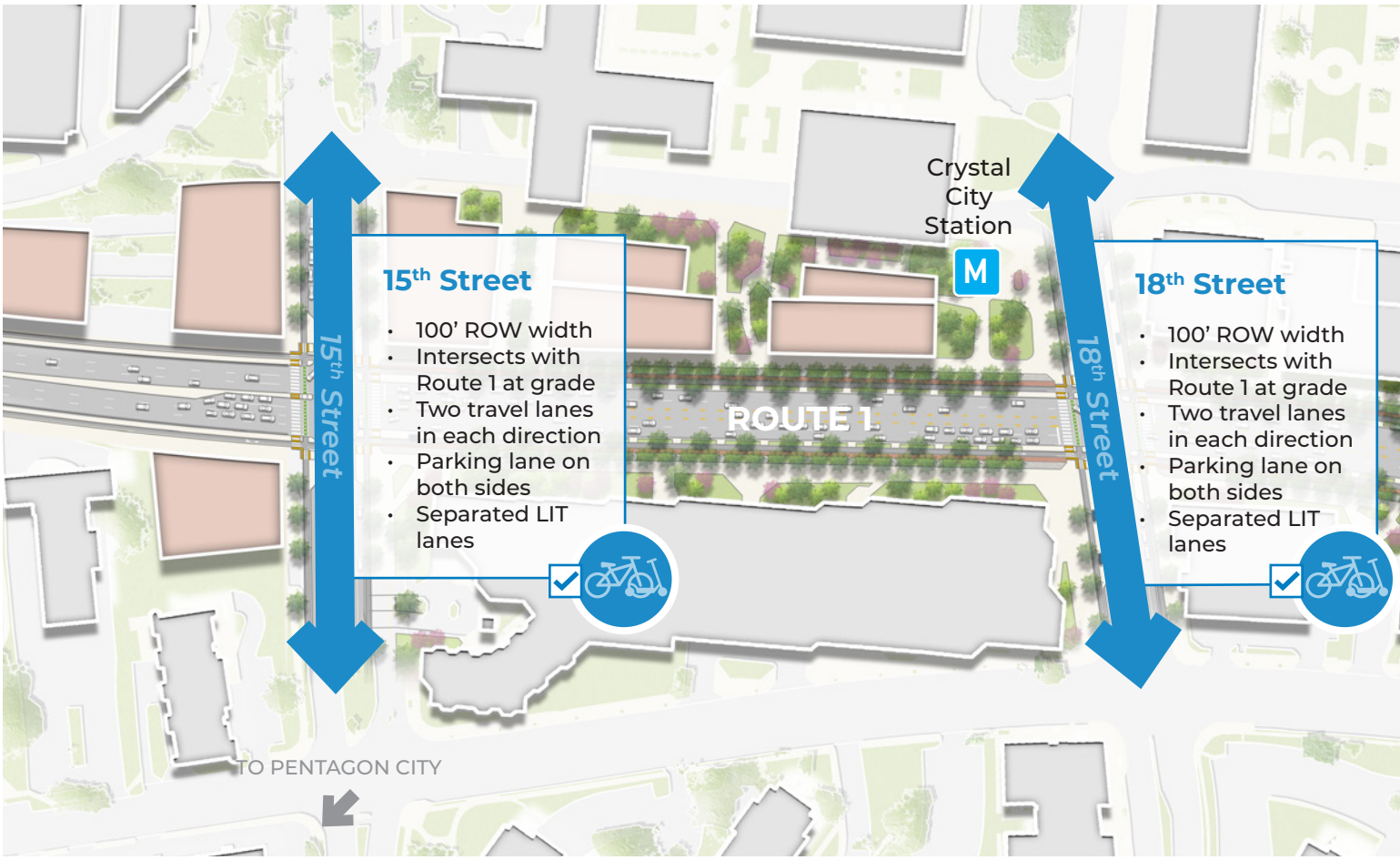
DRAWBACKS

- No center median
- Requires more hands-on management of traffic operations
- No peak-hour dedicated left turn lanes

EAST-WEST CONNECTIONS

Transforming Route 1 into an at-grade urban boulevard will eliminate the freeway as a physical and psychological barrier, improving east-west connections between Crystal City, Pentagon City, Aurora Highlands, and Reagan National Airport. To further improve east-west connections in the area, the *Reimagine Route 1* plan outlines a series of transportation improvements for roads that intersect with the Route 1 corridor, building on the enhancements to these roads proposed in the *Crystal City Sector Plan (2010)* and responding to emerging trends like micromobility and rideshare. Recommendations include changes to cross-street configurations, as well as intersection operations.

The intersections illustrated in the three concepts are based on potential or, in the case of the 20th and 23rd Street intersections, actual redevelopment proposals that embrace the Sector Plan's vision for a relocated Clark/Bell Street located further east. This shift enables more conventional intersection geometries, signal timing, and the creation of new development sites as envisioned by the Sector Plan.

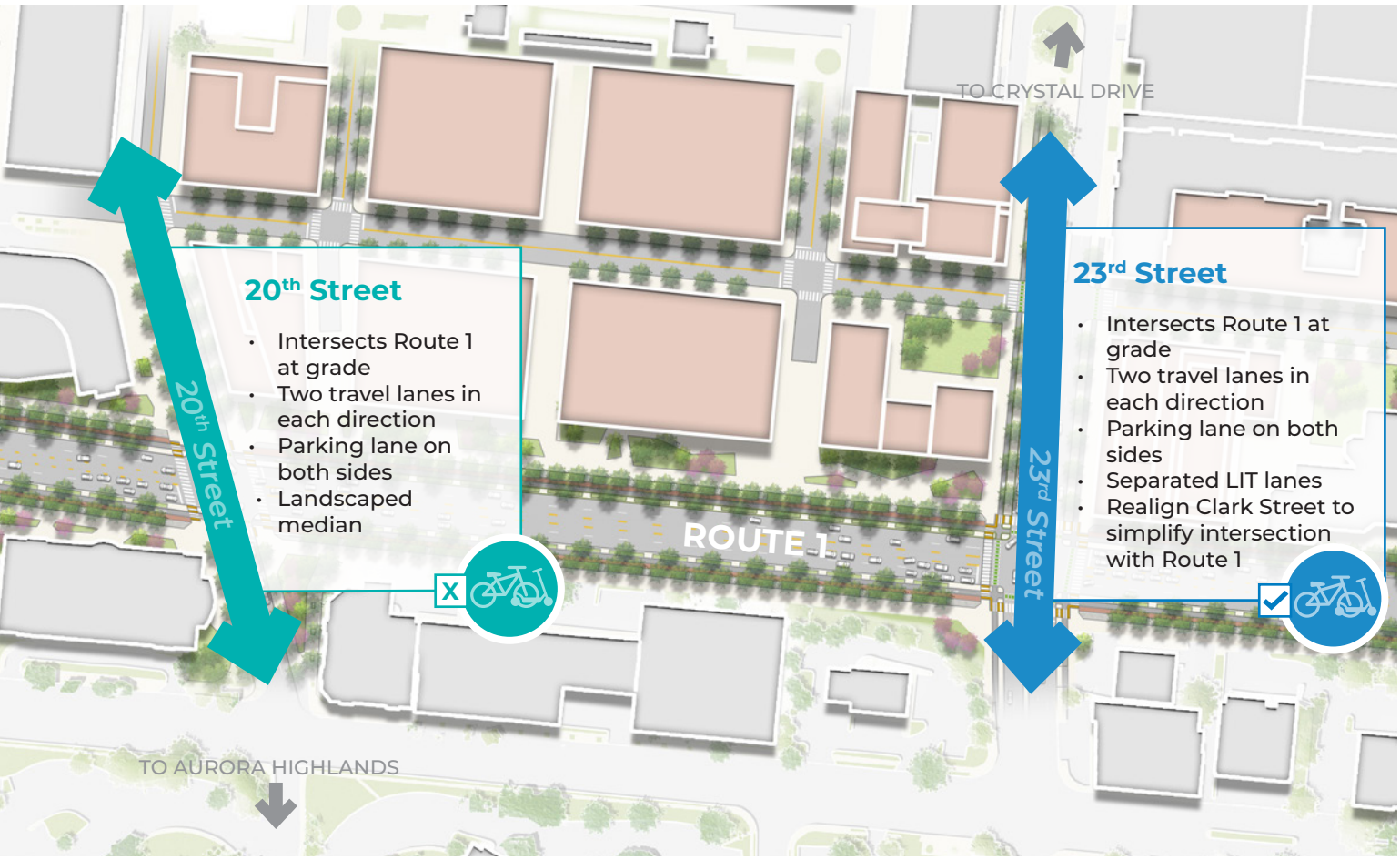


CROSS-STREET RECOMMENDATIONS

The illustration below highlights proposed improvements to 15th Street, 18th Street, 20th Street, and 23rd Street, the southernmost cross street within the scope of the VDOT study. As the Route 1 redesign extends further south in the future, recommendations will be made to improve additional cross streets. Features like LIT lanes, wide sidewalks, landscaping, and on-street parking on these streets will help build out a safe, connected, multimodal network throughout the area. The full Reimagine Route 1 plan includes details on recommended cross-sections.

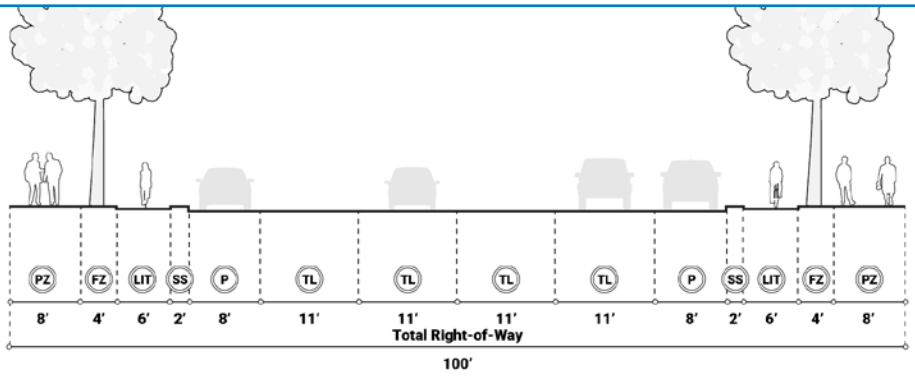
INTERSECTION RECOMMENDATIONS

Intersections also play an important role in the ease and safety of east-west connections. At the intersection of Route 1 and 23rd Street, the proposed design reduces the number of potential conflicts and turn movements by realigning S. Clark Street. The new design will allow for four-way intersection signal phasing and reduce wait times for pedestrians and drivers. A protected intersection will reduce vehicle turning speed and improve the visibility of bicyclists and pedestrians to drivers.

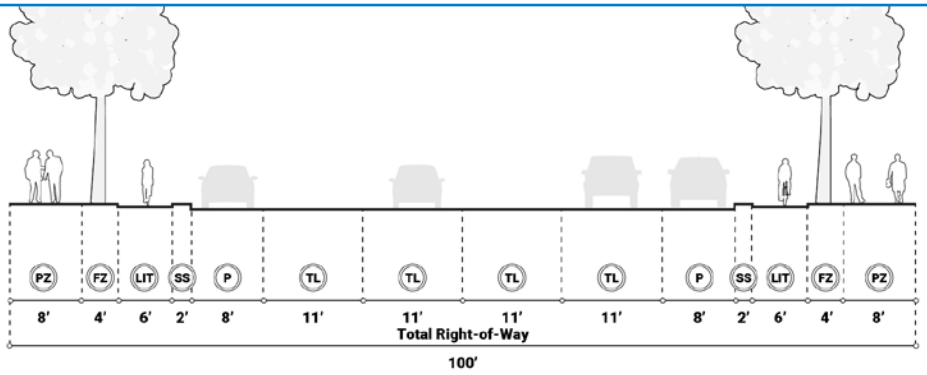


CROSS-STREET TYPICAL SECTIONS

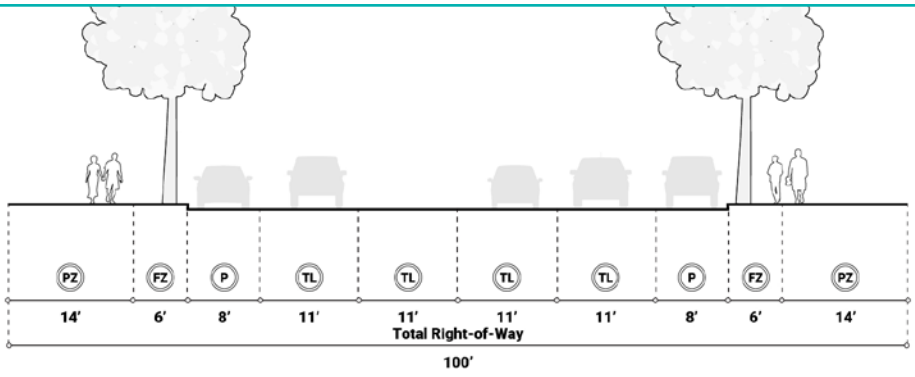
15TH STREET



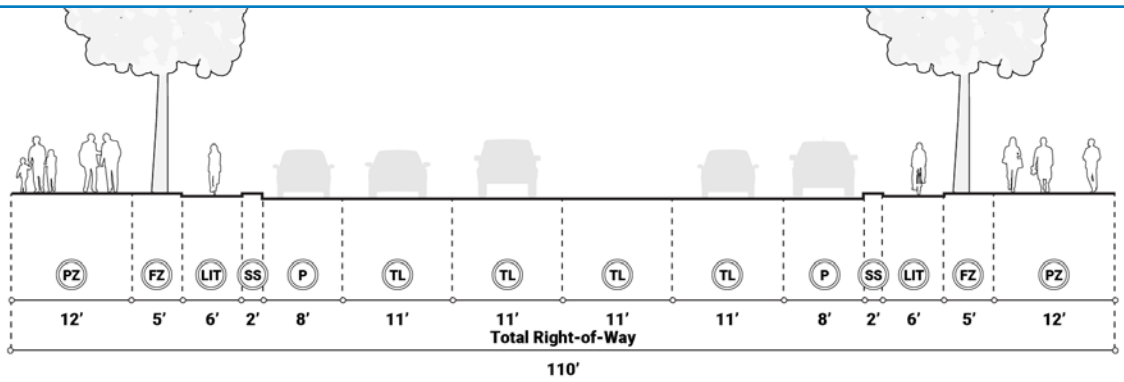
18TH STREET



20TH STREET



23RD STREET



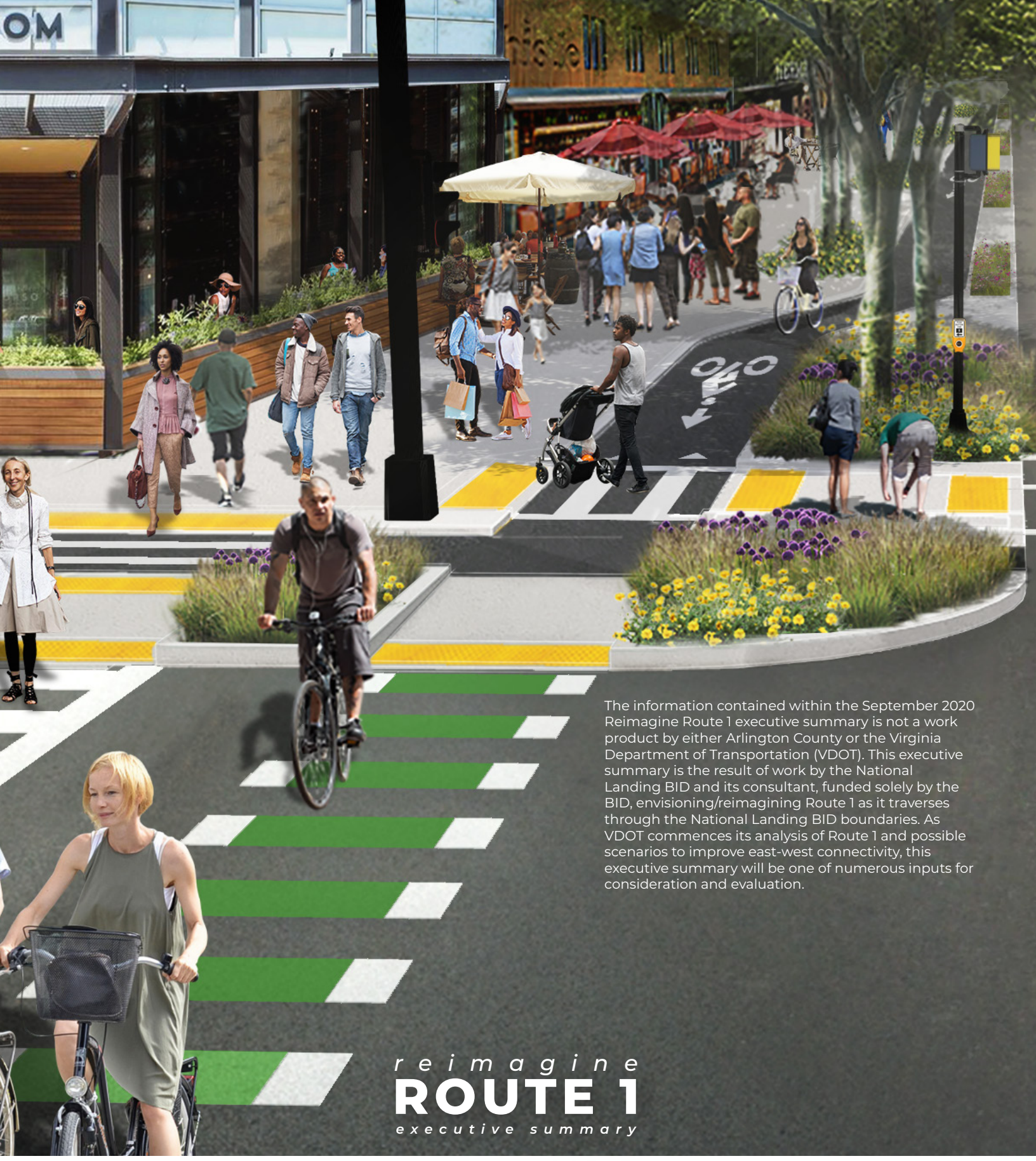
CONCLUSION

The Reimagine Route 1 report is a bold first step towards delivering a main street for National Landing. The report offers three distinct concepts, each of which would bring Route 1 to grade, knit the neighborhoods together and create safer and more seamless east-west connections along improved existing streets.

Inspired by Great Streets precedents and urban highway removals from around the country, each configuration prioritizes safe, comfortable and convenient crossings; promotes walking, biking, mass transit and other sustainable forms of mobility; encourages human connections and scale; and provides dedicated and well-defined spaces for all users via a street network that is intuitive, attractive, smart and flexible.

The report coincides with the launch of VDOT's Route 1 Multimodal Improvements Study, which will examine "enhanced multimodal connectivity and accommodations along Route 1 in Crystal City, to meet the changing transportation needs of this growing urban activity center." This process will involve a series of technical studies and robust engagement with the public, Arlington County, and other key stakeholders.

The report aims to inform and inspire these conversations on how Route 1 can be transformed into an inspiring gateway that prioritizes the community and puts people first for the corridor and the National Landing area as a whole.



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