

## **Appendix A: Livability22202 Community Goals and Priorities**

Livability22202, a coalition of three civic associations in 22202 (Arlington Ridge, Aurora Highlands, and Crystal City), is committed to tackling the challenges facing our area with holistic strategies based on shared livability themes to create a better, more livable city.

Livability22202 Goals, found in the Livability22202 Action Plan

<https://livability22202.org/files/Livability22202-Action-Plan-v1.0-12-Nov-2019.pdf>

are the following:

- Address Housing Affordability
- Provide Essential Services Across the Community
- Foster Environmental Sustainability
- Encourage Engagement, Arts, and Culture
- Extend the Multimodal Transportation Network

The need to design and implement better and safer connections across Route 1 is a key element of achieving the transportation goal, and further details are addressed in the accompanying Action Plan and Workshop Summary listed in the Appendix.

One of the key outcomes of the Livability22202 process was to set up specific working groups to address key critical needs: affordable housing, the future of the Underground, open space, schools and daycare, the two-theater venue, and the Route 1 Working Group. The slide deck prepared for the Pentagon City PDSP process displays some of the ideas from the working groups, and several of the slides focus on key transportation issues: connectivity, walkability, and transportation (<https://livability22202.org/pdsp-slides/>)

The Route 1 Working Group began working virtually this summer. Since then, members participated in a general Livability22202 virtual meeting and hosted two virtual public meetings specifically on Route 1. Records from these meetings are available through the Working Group section of the Livability22202 website:

<https://livability22202.org/route-1-working-group/> Many of the Working Group members, as members of the VDOT Task Force, are actively involved in the development and dissemination of VDOT project information.

The Working Group has drafted a set of goals for the Route 1 project. Our community-based recommendations for an innovative new vision for Route 1 and its cross streets between 12th St. South and 23rd St. South, include the following:

- Provide a safe, convenient, connected, accessible, comfortable, and enticing space for people of all ages and abilities and using all transportation modes
- Reduce unnecessary points of pedestrian conflict and prioritize elimination of points of conflict at intersections
- Include a healthy, sustainable, and lush green environment that everyone can enjoy and that significantly increases available open space in 22202

- Support a healthy, connected, robust, and growing 22202 community
- Support the local business community
- Increase equitable transportation access
- Maintain appropriate throughput for both east-west and north-south traffic
- Recognize the need for intuitive transportation designs to accommodate the many visitors that may be unfamiliar with the area
- Develop an effective economic model to build and maintain the new roadway
- Is data-driven and evidence-based
- Align with decision making authority for Route 1 decisions and actions
- Meet both current and future transportation needs --through at least 2050
- Include an evaluation plan, performance metrics, and a strategy for revisions if the changed roadway is inadequate
- Articulate strategies to improve the roadway performance that will be implemented along the roadway south of 23rd Street when revisions are made on that portion of Route 1
- Allow the Working Group to consider multiple options and a range of possible outcomes; and
- Regardless of the final decision, provide sidewalks, crosswalks and other aspects of the project accessible in accordance with the most current national urban planning standards

### **VDOT Project Goals and Livability22202 Responses**

We also appreciate that VDOT has provided a set of stated goals for the project, which we include here with comments. The *purpose* of the VDOT study, as described on the project web page

[http://www.virginiadot.org/projects/northernvirginia/route\\_1\\_multimodal\\_improvements\\_study.asp](http://www.virginiadot.org/projects/northernvirginia/route_1_multimodal_improvements_study.asp) "is to identify enhanced multimodal connectivity and accommodations along and across Route 1 in Crystal City, to meet the changing transportation needs of this growing urban activity center. The need for this study is two-fold:

- Multimodal transportation demand is increasing from the creation of an additional Amazon U.S. Headquarters (HQ2) and other ongoing development in the Crystal City and Pentagon City area
- These areas are already heavily developed with limited space for expanding the footprint of the transportation network

VDOT further states:

- The study scope will study "Route 1, from approximately 12th Street to 23rd Street South" and "explore an at-grade urban boulevard, but also review and compare potential improvements to the current elevated condition, and the elevated urban boulevard described in the Crystal City Sector Plan. Ultimately, the study aims to provide sufficient information to make the best decision on a future project on Route 1 in Crystal City."

- At this time, no construction funding has been allocated, so this study will not set design or construction dates.
- This study will be performed in close coordination with Arlington County staff and other local and regional stakeholders.

We note that VDOT's language for the Study Scope has evolved: The slide from the first Task Force meeting states: "At-grade urban boulevard focus because it is unusual and extremely complex." However, the slides from the second Task Force meeting and the Public Meeting state: "Seeking to understand potential costs and issues/solutions for constructability and multimodal access." (p. 20, p. 9). The Livability22202 Working Group believes that the study scope is very important and that any changes to the scope during the course of the project should be highlighted and justified. We would like to ask VDOT why this part of the study scope was changed, and why is the study scope not on the VDOT main project webpage?

*VDOT Project Goals* from the website are the following:

[http://www.virginiadot.org/projects/northernvirginia/route\\_1\\_multimodal\\_improvements\\_study.asp](http://www.virginiadot.org/projects/northernvirginia/route_1_multimodal_improvements_study.asp)

1. Safety: Improve multimodal safety for pedestrians, bicyclists, micro-mobility modes, transit and vehicles along and across Route 1
2. Multimodal accessibility and accommodation: Increase multimodal accessibility and accommodation along and across Route 1
3. Transit effectiveness: Make transit more accessible, reliable, and convenient
4. Vehicular operations: Maintain an appropriate level of vehicular operation and accommodation along Route 1 and on intersecting streets: 15th Street, 18th Street, 20th Street, and 23rd Street:
5. Environmental: Preserve, protect, or enhance the built, natural, visual, and social environments

*Livability22202 Comments on VDOT Project Goals:*

- Goal 1: Study should define the appropriate design speed to achieve safety. We recommend setting the maximum speed limit to 25mph along Route. Speed Kills: Every 5 MPH increase in speed increases the fatality and serious injury rates for bike-ped injuries significantly. See this NHTSA report (look at tables on p. 12) and links from the Vision Zero Network site: <https://visionzeronetwork.org/resources/safety-over-speed/> Alexandria has lowered its speed limits to 25 along its sections of Route 1, and DC is moving towards Slow Streets (15 mph).
- Goal 4: Add key parallel streets (Crystal Drive, Eads, Fern, Hayes, Joyce) to the maintenance of vehicular operations goal. Traffic trend data reported in the DES Pentagon City traffic report show that traffic on these streets is increasing, and the community is concerned that Route 1 traffic will migrate to these parallel streets. Minimizing cut-through traffic is a priority of the Livability22202 community. Study should determine appropriate level of peak hour traffic to be accommodated.
- Goal 6: Urban Fabric: Integrate Route 1 with urban fabric of Crystal City and Pentagon City. This new goal appears on VDOT's slide presentations at meetings, but it does not appear on the project website. The Livability22202 community would support this goal if it is added, as it supports our goal of connectivity throughout 22202. Please add to the website.

## **Appendix B: Missing Information and Data in the Existing Conditions Presentation**

The VDOT Public Information Meeting No. 1 of December 16 was identified as a presentation of existing conditions in the project schedule. While we appreciate the inclusion of information from the VDOT survey, and a few slides showing crash data and average speeds, we assume that a much more complete set of existing conditions data has been collected in order to undertake this important work. We assume that this would include data for both vehicular and transit uses, historic patterns and growth trends, and expected development densities and assumptions for trip generation from area build-out. Livability22202 is interested in having the opportunity to review this data and develop an understanding of it in order to build our ability to support the results of the study.

**Recommendation:** To this end, we request that VDOT provide us a list of data sets collected to date, including any existing conditions reports prepared by the consultant team, and follow up shortly with the full data distribution to the public.

### **Traffic Data and Projections**

The volume of pedestrian and bicycle traffic is likely to grow substantially with completion of Amazon's HQ2 housing 25,000 employees, many hundreds of which will likely live or arrive via VRE on the east side of Route 1 and need to cross the highway twice daily from home to work. Because the safety and convenience of east-west pedestrian, bicycle and transit traffic needing to cross Route 1 is of utmost importance, the study should provide data and assumptions for VRE and Metro ridership, and pedestrian flows from Crystal City to Amazon HQ2 and other commercial development west of Route 1. Ridership numbers at the Crystal City multi-modal center for Metro, buses, and other modes are needed. This analysis should include estimates of the signal cycle and phase lengths to accommodate pedestrian crossings if an at-grade strategy is pursued.

With Arlington County in the process of updating the Pentagon City PDSP, we understand that a full set of transportation data and traffic modeling is under development in that study. During the first meeting of the VDOT project Task Force, VDOT staff indicated that they would rely on County data for many of their traffic projections for the project, specifically data presented through the current and ongoing Pentagon City Planning Project. Livability22202 will be interested in seeing how the data from the county and VDOT studies overlap and mesh as we move forward. In the event additional data are necessary, VDOT should describe the strategy for the collection of such data.

However, we have the following concerns about relying on the Pentagon City PDSP traffic study data:

- The transportation modeling work was scheduled to be completed by the end of 2020, but it is not yet available. Will it be available in time to be useful for the VDOT study? If not, what will be used instead?
- The DES transportation study contains lots of potentially useful data, although we disagree with some of the conclusions and analyses: The conclusion about the impact of growth on traffic in 22202 stated on p. 30: "These figures suggest that during the last 40

years, the planned and centralized development around our Metrorail stations is not significantly impacting daily traffic flow within the historically single-family neighborhoods located in 22202." This conclusion only focuses on traffic patterns on 23<sup>rd</sup> Street and on Arlington Ridge Road. The Table on p.58, with traffic trends at 5-year intervals from 1989-2019, shows significant increases, almost doubling in some cases, for Fern, Hayes, Joyce, and Crystal Drive; and Eads between Fort Scott and 23rd. These charts also show significant increases: Crystal Drive p. 73, Hayes/Joyce p. 74, and Eads/Fern p. 75. **These are all streets that the community feels may be further impacted by cut-through traffic with proposed changes to the Route 1 design.** The increased use of these neighborhood streets has been addressed with DES in recent years although no solutions have been articulated by Arlington County to our knowledge.

- The DES transportation study does not include data on where drivers are coming from or where they are going – essential information for Route 1 traffic projections. These data exist however and should be included in the VDOT study. For example, a recently released MMTIA report, for the 2001 S. Clark development, includes TAD data on origins and destinations for commuting traffic: <https://projects.arlingtonva.us/wp-content/uploads/sites/31/2020/12/MMTIA-CrystalPlaza1-Aug2020-Draft.pdf> (see pp. 68-69).

## Safety Data

VDOT project staff presented a summary of crash data for Route 1 for 2015-2020 during the second Task Force meeting and the Public Meeting. We look forward to the release of the full report, as the summary provided insufficient information. **The initial summary gives us little confidence that the project team is seriously analyzing the safety impacts associated with exposing the high volumes of vulnerable road users that cross under Route One to interactions with tens of thousands more drivers on the Route 1 through-lanes.**

Specific safety data and analyses that we hope to see in conjunction with this study include:

- Volumes of pedestrians and bicyclists traversing the midblock portions of 12<sup>th</sup> and 18<sup>th</sup> Streets, which are currently grade-separated from Route One motor vehicle traffic.
- A crash forecast for a new at-grade intersection at 18<sup>th</sup> Street S using *Highway Safety Manual* methods.
- Actual speed data for all street segments on or intersecting with Route One.

We also encourage VDOT staff to review other sources, such as the County Vision Zero recently released [critical crash analysis report](#) and [2019 Annual Crash Report](#) that show that 22202 continues to be a high crash area, especially for our most vulnerable road users. These data and analyses should be included in VDOT's own safety analysis for project alternatives. Some highlights from these reports are:

- Pedestrians are our most vulnerable crash victims: While crashes involving pedestrians make up only about 5% of all crashes, pedestrian crashes make up almost a quarter of critical crashes and over half of fatal crashes. This data affirms that when a pedestrian is involved in a crash, their injury is much more likely to be severe.

- Pedestrians are not safe crossing at intersections: Half of all pedestrian crashes in 2019 were crossing with a signal at an intersection (p. 23). In more than a third of severe pedestrian crashes, the driver was making a left turn (p. 4 analysis)
- Bicyclists made up about 2% of all reported crashes but 8% of serious crashes. 90% of reported cyclist crashes had injuries (p. 25). In 44% of critical bike crashes, the driver was making a right turn (p. 5 analysis).
- 22202 is a high crash neighborhood, with the highest number of crashes at one intersection in the County (Army-Navy at South Hayes, p. 27). We also have a high number of pedestrian crashes (p. 28) and cyclist crashes (p. 39 in our area and have bike and pedestrian intersections tied for second place for crashes (S. Fern and 15th; S. Joyce and 15th). Pentagon City alone had five critical pedestrian crashes, all of which involved large trucks (p. 4 and p. 7 analysis)
- Speed kills: Speed-related crashes made up about a quarter (26%) of critical crashes compared to 21% of overall (p. 5 analysis).
- Larger vehicles cause more severe injuries: 23% of crashes with severe injuries involved turning large trucks (p. 4 analysis)

### **Study Process and Parameters**

We appreciate that VDOT pledged during its December 16<sup>th</sup> information meeting that its feasibility study would “provide sufficient information to make the best decision on a future project on Route 1 in Crystal City.” Likewise, we are pleased that the study will include an “analysis of existing configuration and analysis of concepts presented in the Crystal City Sector Plan,” while exploring the feasibility of an at-grade urban boulevard [along with the] potential costs and issues/solutions for constructability and multimodal access. This will enable the 22202 community and Arlington County to formulate informed conclusions about the future of Route 1.

We trust that there will be a formulation of alternatives for consideration, and recognition that the nature of the modeling undertaken to evaluate them will be critical to the outcome of the study. Options will include the selection of design concepts for Route 1 as a whole, as well as concepts for individual intersections and cross streets. We assume that critical projections for future traffic volumes, peak hour volumes, transit use, and modal splits will be developed. And we trust that these predictions and/or assumptions will be shared promptly with the public during the early stages of the study rather than at its end, or worse, not at all. While we are aware that sharing this information about the future requires a little more effort from your consultant team up-front, we believe that it will save time overall and build public trust in the results of the study.

Given the limited time available for the December 16<sup>th</sup> public presentation, we recognize that it would have been difficult to provide any level of detail that would allow the stakeholder community to obtain a complete picture of the study’s progress to date. However, the project timeline provided on page 10 of the presentation indicated that “Data Collection and Review” had been completed, and that both the “Multi-modal Transportation Analysis,” and the “Concept Planning (Alternatives Development)” were underway. Accordingly, we submit that it is critical that VDOT share with the community as soon as possible all materials developed to date rather than just provide the cursory overview during the public meeting. Hence, we would

appreciate VDOT's making available to Livability22202's representatives the full existing conditions report and a full description of both the Multimodal Transportation Analysis and the Concept Planning Alternatives Development as soon as possible, certainly well in advance of the next scheduled public workshop in March.

We assume that modeling of the alternative design concepts will be based on identified alternative assumptions for future traffic based on a range of projections for peak hour loads, transit utilization, and changes in commuting patterns. As the traffic modeling exercise advances, in order to properly compare the alternatives described in the study's scope, the vehicular circulation performance for each alternative will be based on a range of future growth scenarios, including modal splits, transit utilization, peak hour load shifting, and levels of service. The performance of the alternatives under different growth and use scenarios should be provided for comparison, and results should not lead to the automatic rejection of a specific alternative if it fails to satisfy a predetermined level of service or performance. Nor should a single estimate of traffic volumes in future conditions be utilized, since the likelihood of substantial changes in vehicular utilization is high. For instance, despite plans to reduce parking available to 22202 residents and commuters, and while ownership and use of personal vehicles may decline in coming years, the advent, cost and convenience of automated vehicles (AVs) could lead to an increase in overall growth of vehicular traffic on existing roadways, particularly given the COG's prediction that as the area's population grows in the coming years, the percent of commuters traveling to work in single-occupancy vehicles will remain what it has been. . The potential for significant impacts on community roadways as a result of apparently minor use changes was evidenced by the recent use of a parking area on for a ride hailing vehicle staging lot for National Airport. Also possible, the future use of AVs and subscription services could lead to an overall reduction in vehicle-miles-travelled. The study should include assumptions based on these predictions.

Thus, the process should reveal differences in levels of performance on an order of magnitude basis, for the different concepts and different assumptions, including about future transit growth and utilization. The study should also identify problem areas or specific challenges requiring solutions for a select set of options, since points of failure for a particular concept might be limited to a discreet set of issues and have the potential to be solved through relatively minor adjustments to the plans. And finally, in addition to modeling the vehicular performance of the various alternatives, the process will also need to develop tools to aid the community in visualizing, assessing and predicting pedestrian and bicycle populations, urban design, and potential development and population growth in 22202.

To allow full evaluation of concepts Livability22202 requests that the study process and modeling be able to document where delays and potential traffic back-ups could occur. For instance, given the potential growth of Route 1 traffic traveling daily to and from Amazon's HQ2 and other 22202 destinations in the coming years, the capacity of existing ramps connecting Route 1 to 15<sup>th</sup> Street should be evaluated, along with the possibility that traffic could queue from these ramps back onto the highway. Indeed, it will be critical for VDOT and the County to develop a collaborative process for coordinating the timing of traffic signals to alleviate back-up congestion of vehicles exiting the highway and entering the local street network.

A primary concern of the 22202 community is the potential for traffic to divert from Route 1 into the neighborhoods during peak travel periods and even other times of day. Any congestion in

the Route 1 corridor could well induce commuter traffic to divert onto narrow local residential streets creating safety hazards and compromising livability of 22202 neighborhoods. The traffic modeling in the study should identify assumptions regarding such spillover traffic, and any street network assumptions or modifications that can be used to mitigate these types of impacts.

In addition, given the community growth underway, it is likely that Arlington County Public Schools (APS) will build a new elementary school somewhere in Crystal City or Pentagon City in the coming years. The utility of that new school will be significantly hindered if an at-grade Route 1 limits the walkshed, while parents will understandably be reluctant to allow children to cross any at-grade Route 1 intersection on foot. This study must learn how APS safety policies and practices would treat hypothetical walksheds, given the intersection concepts included in the current alternatives.

The study process should also recognize prior commitments made to the community concerning traffic. A key part of building and sustaining trust during these studies is to attend to these prior commitments, else risk devaluing this present and future studies. The study should include review of the Crystal City Sector Plan transportation implementation actions, in particular Action 20, with regard to Arlington County commitments on 22202 neighborhood traffic impacts resulting from development in Crystal City and determine how this present study and subsequent plans will be in accord with these prior commitments.

Traffic modelling of future conditions must also include consideration of a continuous direct parallel Clark/Bell Street corridor. Several recent development transportation analyses have omitted [the planned realignment of Clark Street](#) north of 15<sup>th</sup> Street S, to install a four-way intersection at 15<sup>th</sup> Street S, as called for in the Crystal City Sector Plan. As a part of the process, the community expects that consideration of the alternative concepts will include evaluation of costs, such that improvements which are relatively more expensive or cheaper to implement can be compared to the benefits derived, including open space and revenue that could be achieved from added development opportunities.

The considerations of the alternatives and traffic estimates should include discussion of the potential for the future conditions not aligning with those estimates. The discussion should include both broad strategies to accommodate those differences as well as a commitment to take action.

Finally, the process should provide documentation of construction feasibility for the various alternatives. Construction phasing and durations should be shown such that the community can evaluate differences in disruption to surrounding businesses and neighbors between the different approaches.

## **Appendix C: Clarification of VDOT Study Concepts**

In addition to asking for consideration of the community concepts described in Attachment D, Livability22202 requests that VDOT recognizes the importance of clearly defining the parameters for each of VDOT alternative to ensure the community understands what is under consideration. To this end, the following descriptions document current Livability22202 understanding of what the three VDOT configurations consist of:

### **Alternative 1: At-Grade Urban Boulevard**

Livability22202 is aware that there are tradeoffs that are worthy of examination in studying the At-Grade Urban Boulevard Concept. Building a more typical urban street with lower speeds, and providing more regular intersections with cross streets, has the potential to improve the overall vehicular network and efficiently spread turning movements and volumes across multiple intersections, rather than concentrating added movements at more limited access points, as occurs with 15<sup>th</sup> Street currently. And the potential to transform Route 1 into an important main street within 22202, with buildings fronting on a boulevard, retail, wide sidewalks, and extensive tree planting, could provide a positive, generational transformation of the community. Our community is interested in finding solutions that improve sustainability, enhance walking and bicycling, and provide urban design advantages that will enhance the long-term economic health of 22202 and all of Arlington, when considering potential changes to Route 1.

As part of the At-Grade Urban Boulevard concept, Livability22202 recommends that the physical design of Route 1 will be just as important as the determination and modeling of vehicular capacity, number of lanes, and turning movements. Our understanding is that the street cross sections included in the Crystal City Sector Plan, and the National Landing BID At-Grade Boulevard Concept study would form the basis for the design to be studied.

Recommendation: VDOT should provide a detailed conceptual plan early on in the analysis to explain the basis of the study, including the baseline concepts for number of travel lanes, the omission of bicycle lanes, median strips, and turning movements at intersections.

Livability22202 has as a primary concern for ensuring pedestrian and bicycle safety with any at-grade concept. As most Route 1 crashes involving these people occur at existing at-grade intersections, the community is concerned that dropping Route 1 to grade and creating additional signalized intersections will reduce overall pedestrian and cyclist safety unless significant measures to mitigate hazards are added.

The following concepts to enhance the At-Grade Urban Boulevard alternative are suggested for discussion with the community, and potential inclusion in the VDOT modeling and study (we also note that many of these concepts for the At-Grade Boulevard are generally applicable to all concepts we have included here):

- Create a bike-ped "tunnel" parallel to 18th street to provide safe passage below Route 1. This below-grade passage should be considered for the possibility to tie directly to the existing below-grade Metro mezzanine, and in effect provide a Metro entrance and exit on the west side of Route 1. But unlike a traditional Metro entrance, it should be

studied for the possibility to ramp down at an ADA compliant slope, include bicycle lanes, and the potential to tie into a large bicycle parking facility at Metro

- Lower speed limits to at least 25mph (see Speed kills above)
- Provide well-lit facilities throughout (note traffic crashes in darkness)
- Provide protected intersections (also consider new style being used on Army-Navy CS project)
- Provide protected bike lanes, both along Route 1, and for intersecting streets, as was proposed by the National Landing BID
- Allow parking on Route 1, at least in "off hours", to calm traffic, increase pedestrian safety and commercial benefits
- Utilize leading pedestrian Interval signals - we need a head start to avoid being hit by turning vehicles
- Provide pedestrian-priority signal timing during off-peak hours
- Utilize adaptive signal control systems to monitor traffic flows in real time and adjust signals for pedestrian and bicycle movements, including during peak hour periods. These signal control systems, including those on Route 1, should be connected to the local county traffic operations control, to enable the real-time management of traffic during special events, disasters, or evacuation orders.
- Create a publicly available dashboard showing traffic metrics for the Route 1 corridor area, combining both VDOT and Arlington County traffic data
- Implement shorter cycle lengths to decrease waiting time for crossing peds/cyclists (unlike Route 1 and 23rd)
- Separately signalize ALL turns (no right on red)
- Implement automated speed and red-light running enforcement
- Develop effective strategies for enforcement, including locations where space may be provided such that enforcement may be safely conducted during rush hours
- Automatic pedestrian recall buttons, which also supports cyclists
- Prohibit U-turns
- Sufficient crossing time for vulnerable pedestrians

A significant degree of community concern with the At-Grade Urban Boulevard concept is related to the intersection of 18<sup>th</sup> Street and Route 1, and potential impacts to bus movements, and pedestrian and bicycle access to Metro and to and through Crystal City. We believe that this location will require significant effort to show feasibility of existing transit-oriented uses in any new configuration associated with the at-grade boulevard concepts. In addition, the At-Grade Urban Boulevard concept should focus on providing significant pedestrian and bicycle comfort and safety improvements at the 20<sup>th</sup> and 23<sup>rd</sup> Street intersections, which are already grade-level, but currently are completely inhospitable to pedestrian use and urban qualities.

### **Alternative 2: Existing Elevated Route 1**

Livability22202 agrees that the consideration of alternatives for Route 1 will benefit from a comparison to the existing conditions of the elevated roadway. Even though the concept of representing existing conditions appears to be the most straight-forward, we have numerous questions about the baseline assumptions for this concept. It will be important for VDOT to clarify these issues such that the community is able to have faith in "apples-to-apples" comparisons between different alternatives. The following issues require explication:

- What changes, if any, are envisioned for the street system at the 18<sup>th</sup> Street Metro entrance in this concept, including bus bays, and pedestrian and bicycle circulation?
- Will the study of the “Existing Elevated Route 1” include multi-modal enhancements at Metro, as well as other multi-modal enhancements?
- Does the study of the Existing Elevated Route 1 envision any changes for the at-grade portions of the roadway south of 18<sup>th</sup> Street, including modifications to the 20<sup>th</sup> and 23<sup>rd</sup> Street intersections, as envisioned in the CCSP?
- Arlington County has already begun to implement changes to Route 1 at 23rd Street as envisioned in the CCSP, primarily in the form of its work on the Block M Plan and the 2000 and 2001 South Bell site plan application. These two plans show changes to Clark-Bell Street that are consistent with the CCSP and imply eventual implementation of the at-grade boulevard concept for Route 1 between 18<sup>th</sup> and 23<sup>rd</sup> Streets. VDOT should clarify the configuration for Route 1 that will be utilized in the Existing Elevated Route 1 concept and subsequent traffic modeling.
- Similarly, VDOT should clarify any changes envisioned at the Route 1 and 15<sup>th</sup> Street intersection that might be possible or advantageous in the Existing Elevated Route 1 concept, especially in consideration of the work that has already been completed for some of the ramp removals. What is the vehicular and urban configuration of this area that is feasible and desirable under the Existing Elevated Route 1 concept?

### **Alternative 3: Crystal City Sector Plan Concept**

Livability22202 is pleased that the CCSP Route 1 concept will be studied as part of the VDOT effort. This will provide a valuable comparison of costs and benefits between the three concepts under consideration. And we note that while the CCSP calls for the transformation of Route 1 into an attractive “urban corridor,” it does not call for the elimination of the existing overpasses and dropping the roadway to an “at-grade” configuration.

The Crystal City Sector Plan provides some relatively clear direction for Route 1 modifications from 18<sup>th</sup> Street south, including the following:

#### Overall Vision

- (Route 1) will become an attractive urban boulevard and unifying element of Crystal City. The laneage [sic] and capacity of this regional connector (Type F) roadway will be maintained, but not expanded. Its environment will be improved with new buildings and streetscapes that address the street.
- (Route 1) will generally have 140’ to 160’ between building faces. Grade separations at 12th, 15th, and 18th Streets will remain, although the plan includes a reconfigured, more urban interchange at 15th Street. Between 20th and 26th Streets the street would remain at grade, and south of 26th Street traffic would be trenched under a newly created National Circle, with service roadways that provide access to the airport with ramps connecting to the roadway’s through travel lanes. The design and operations of the circle must continue to accommodate commercial vehicle access to and from the airport, as this is its only permitted access point (Crystal City Sector Plan, page 61).

Route 1 at 15<sup>th</sup> Street – grade-separated with center ramps

- As a long-term objective, the outboard ramps at 15th Street are reconfigured to a tighter inboard configuration, which also contributes land to the new blocks. This restructuring of ramps also permits the new Clark-Bell Street to form a through intersection at 15th Street, eliminating the need for the loop, and freeing land for a reconfiguration of 15th Street to include area for a Garden Park (Crystal City Sector Plan p.49).
- By relocating ramps to the middle of (Route 1), new buildings will be able to front directly onto the boulevard, creating a grand tree-lined urban boulevard. (p. 34)

Route 1 at 18<sup>th</sup> Street – grade-separated without ramps or vehicular connections

- Additional major transportation improvements include a new multi-modal station near Clark-Bell and 18th Streets, that would connect Metrorail with the surface transitway, commuter and local buses, and pedestrians and bicyclists.

Route 1 between 20<sup>th</sup> and 18<sup>th</sup> Streets

- Becomes a six-lane boulevard making it a more unifying element of the Crystal City public realm (p. 36).
- Will be modified into a six-lane boulevard with landscaped sidewalks and median making it a unifying feature of Crystal City. (p. 34)

Route 1 at 20<sup>th</sup> Street – at-grade intersection

- 20th Street will be a retail-oriented mixed-use arterial street (Type A) that connects Crystal Drive with Eads Street, crossing Route 1 at grade. Its alignment would generally remain the same. 20th Street will be an important entry point into the heart of Crystal City given its adjacency and orientation to the new Center Park.
- 20th Street will generally have a right-of way dimension of 100' between building faces. This dimension provides sufficient space for two travel lanes and one parking lane in each direction, and wide sidewalks. 20th Street is also envisioned as a lively retail street, an expansion of the Crystal Drive and Underground retail nearby.

Route 1 at 23<sup>rd</sup> Street - at-grade intersection

- In Crystal City 23rd Street will be a retail oriented mixed-use arterial street (Type A). East of Route 1, the roadway will be reconfigured by removing the center median and accommodating two-way travel in the southern half of the existing right-of way. The realignment of Clark-Bell Street and new intersection with 23rd Street will simplify the intersection with Route 1, improving its overall performance. These changes will also help create a new 23rd Street market plaza and pocket park at the northwest corner of the Crystal Drive and 23rd Street. Ground floor retail will expand upon the strong retail presence already in the area. The general guidance for the 23<sup>rd</sup> Street cross-section includes a building face to building face dimension of 110'. This dimension would provide sufficient space for a wide sidewalk, parking lane, bicycle lane, and two travel lanes in each direction (p. 61)
- In order to properly evaluate the Crystal City Sector Plan Route 1 concept, we believe a number of issues merit discussion and resolution, including more detail about the design of the elevated portion of Route 1 as envisioned in the sector plan (with sidewalks and active building frontages on the elevated boulevard), the 15<sup>th</sup> Street

ramps relocated at the center of the R.O.W, and the configuration of the at-grade portion of the boulevard south of 18<sup>th</sup> Street. Additional details for this concept are needed in order to realistically evaluate the concept in line with the study scope and goals.

- The community believes that implementation of the CCSP concepts for Route 1 could include design concepts that would significantly enhance the safety and friendliness of existing underpasses, which essentially function as bridges, and thereby enhance “connectivity” between and within 22202's urban community which exists on both sides of the Route 1 moat. And as indicated in our proposals for “hybrid” concepts below, we believe there is merit in considering a combination of the CCSP concepts with additional ideas for at-grade segments. We also note that the CCSP concept provides new development opportunities at 15<sup>th</sup> Street, with the plan showing several locations for new development if the on/off ramps at 15th Street are moved to the center of Route 1 (see CCSP Fig 3.3.15 Northwest Gateway, p. 41).

## **Appendix D: Livability22202 Alternative Concepts**

The following concepts to enhance the Crystal City Sector Plan alternative are suggested for discussion with the community, and potential inclusion in the VDOT study. The VDOT Public Information Meeting No. 1 of December 16 presentation notes on page seven that “the current Route 1 feasibility study will examine at-grade, existing elevated, and Sector Plan configurations.” With three concepts recognized in the scope, we provide comments in Appendix C on each of these, in the order listed in the presentation. In addition, we also request consideration of one or more additional concepts combining elements of all three options, which we describe here first as “Livability22202 Alternative Concepts.”

Due to the unprecedented opportunity to realize redevelopment of the National Landing area, in conjunction with Amazon’s new HQ2, Livability22202 believes that the opportunity exists to achieve transformational changes to Route 1 that further Arlington’s environmental sustainability, affordable housing, transit utilization, and economic development goals. Given this once in a generation opportunity, Livability22202 recommends that consideration be given to additional concepts for changes to Route 1 that can potentially meet all project goals. This is the time to consider best practices and forward-thinking alternatives, and test them for feasibility, cost, and implementation potential. In the first VDOT Task Force meeting, VDOT itself recognized that the study scope is of significant importance, stating that the “At-grade focus .... is extremely unusual and extremely complex” (Slide 8, p. 13 of PDF).

### **Focus on Safety**

All of the Livability22202 concepts included below focus on ensuring safe and high-quality pedestrian, transit, and bicycle conditions at all intersections, and especially at 18th Street. We strongly recommend keeping 18th Street separate from Route 1 as the best way to ensure bike-ped safety. These concepts offer ways to accomplish this through urban design enhancements, such as including retail or occupied space underneath any portions of Route 1 that remain elevated. Several of the ideas focus on leaving Route 1 elevated at 18th Street, following the CCSP, with varying proposals ranging from limited to more extensive alterations. Alternatively, another set of ideas offered by the community maintains a pedestrian focus at 18th Street by proposing an underpass either for Route 1 or 18th Street.

Residents have noted a general fact that no matter what mode of transportation they take they are currently safer with Route 1 overhead than having to cross it at grade. As one resident poignantly noted:

*My concern is a possible increase in wayward traffic on parallel streets because of drivers’ frustrations with the new Route 1 design - and this would increase my risk as a pedestrian as I need to cross these parallel streets. For example, even now at Fern Street, I often wait while more than a dozen vehicles whiz by me before someone will stop or there is a gap in traffic - I am a human speed bump!*

### **Support Crystal City Multimodal Center**

All hybrid concepts described here are intended to support the Crystal City Multimodal Center, which stretches along 18th Street from Crystal Drive on the east to Eads Street on the west as well as along Bell between 15th and 18th. This section of 18th, currently passing under current Route 1, provides commuter, ART, Metroway, and WMATA bus stops and bus layover spots for our region, hotel jitney stops, PUDO stops, on-street micro-mobile parking, and Capital Bikeshare stations, along with the current Crystal City Metro entrance.

- It will be critical to plan for this important and convenient transit connectivity if Route 1 is brought down to grade (see YouTube video that illustrates what is currently located there: <https://www.youtube.com/watch?v=fkv7HuVVx8Q> ).
- Supporting the success of the Crystal City Multimodal Center supports Goals 2 and 3 of the VDOT study for Multimodal accessibility and accommodation: Increase multimodal accessibility and accommodation along and across Route 1; and Transit effectiveness: Make transit more accessible, reliable, and convenient.

### **Risk of Off Ramps on 18<sup>th</sup>**

The prospect of having 18th Street between Route 1 and Crystal Drive serve as an “off ramp” for a large portion of the traffic coming from Route 1 to Crystal City would be detrimental to transit at the Crystal City Multimodal Center. This area will have a high degree of pedestrian use in the near future, with two Metro entrances, the multiple bus stops on Clark-Bell and in the underpass, pedestrian traffic related to VRE and CC2DCA, new retail attractions with a grocery and theater north of 18th Street, and the new Waterpark (plus trail head) east of Crystal Drive. Protection of pedestrian and transit users here is critical and increased vehicular traffic from Route 1 would likely be detrimental to overall multimodal goals. Livability22202 recommends that the majority of drivers of private vehicles should continue to use 15th Street and a reconfigured 20th Street.

### **Let’s Design It Right!**

Recognizing this opportunity, and the need to take full advantage of this “unusual and complex” project, Livability22202 offers the following concepts, on a preliminary basis, for discussion and consideration as we move forward with the study (note that for purposes of this discussion, 12th Street is assumed to remain with Route 1 configured as an overpass above the local street). We encourage consideration of these alternative solutions for Route 1 in the study area, and also encourage expansion of the analysis and recommendations to address all of Route 1 in 22202 - from 12th Street to the Alexandria border (with close coordination of plans with Alexandria).

### **Livability22202 Alternative A: At-Grade Boulevard Refinements**

Notwithstanding our concerns regarding safety and convenience, Livability22202 believes that the At-Grade Boulevard concept might offer a number of opportunities for refinements and enhancements that would make it more consistent with community goals. These are described here and are suggested as an additive set of possibilities, and not mutually exclusive.

#### *Linear Park*

The urban boulevard concept could be configured to provide a meaningful linear park along the entire north-south length of Route 1. This park could serve as a continuous pedestrian and bicycle circulation zone to link the National Landing area from Glebe Road on the south to 12th Street on the north and is consistent with Livability22202 plans for open space and sustainability. The open space elements could be located within the median of Route 1 and could also include a combination of open spaces located in the median and at one side or the other of the boulevard. While inclusion of a linear park in the median or along the side of the Route 1 boulevard could potentially widen the Route 1 R.O.W. and lengthen crossing times for pedestrian and cyclists, such a concept may have enough advantages to merit these compromises. The community has considered the following issues and features for a linear park coupled with the urban boulevard concept:

Although an attractive traffic-slowing median strip as modest as the one on Connecticut Avenue north of K Street or even a wider tree-filled median strip, with additional trees planted along the outer roadway edges wherever possible would create a boulevard, our goal is to create a real, useable linear park with these characteristics:

- Wide, lush/sustainable, walkable ped median (with seating), ideally a shared use path
- Must be paired with a low design speed for the Route 1 boulevard
- Park visitors must be able to safely travel to and from the linear park, in addition to safely crossing Route 1.

#### *Pedestrian Underpasses*

In addition to the linear park, Livability22202 has considered the idea that well-conceived and designed pedestrian underpasses could also be key elements that would make an at-grade boulevard more viable. While the 23rd Street underpass was recently closed and had a number of problems, a narrower Route 1 R.O.W. could be coupled with pedestrian, and potentially bicycle, underpasses at 18th and 23rd Streets, in particular, to improve safety and transit accessibility. To be of value for consideration, pedestrian and bicycle underpasses should achieve the following:

- Underpass cannot conflict with the Underground route
- Underpass grade should meet ADA guidelines
- Underpass should be wide enough for users to pass each other comfortably
- Underpass should be well-lit, safe, and clean

#### **Livability22202 Alternative B: At-grade 15th Street and Elevated 18th Street**

This concept can be considered as a hybrid between an at-grade boulevard and the elevated road envisioned in the CCSP (and existing today). In essence, an at-grade urban boulevard could be established throughout the length of Route 1, with regular urban intersections at 15th, 20th and 23rd Streets, and a grade separated condition at 18th Street only.

The 18th Street elevation could potentially be lowered slightly from its current condition (although this could require that the Underground “daylight” at a lowered 18th Street and would need coordination with plans for the future Underground), with a corresponding raising of Route 1. Rebuilding the Route 1 structure over 18<sup>th</sup> Street offers the opportunity to redesign

it to eliminate the obtrusive center pier, give more vertical space underneath, and even redesign the bridge itself to be a signature architectural feature, rather than its current utilitarian drabness.

A rebuilt Route 1 structure over 18<sup>th</sup> Street could even incorporate retail space into rebuilt abutments. This would bring a welcoming atmosphere to the under-bridge spaces. It could also include retail frontage facing onto the expanded open space at the Crystal City Metro (with the removal of the remnant Clark Street overpass abutment), which could host any number of complementary uses, such as the County's Commuter Store. With a reconstructed 1800 Bell Street building, and the removal of the old Clark Street abutment, a small retail alley could be created between 1800 Bell and the retail spaces under the Route 1 abutment, that meets the Route 1 streetscape at-grade by the current Hilton hotel property.

Alternative B offers the following pros and cons:

- 18th Street can maintain its focus on transit requirements and safety for all modes of transportation
- Grade transitions between Route 1 and 18th Street could provide urban design opportunities for unique building and landscape elements that signify the importance of the location as a transit center
- Urban boulevard can be created along the entire length of Route 1
- A higher overpass would support a lower Route 1 design speed through increased slope
- 15th Street at grade can fulfill opportunities for new development as envisioned in the boulevard concept

### **Livability22202 Alternative C: Route 1 Underpasses – “Little Dig”**

Given the extensive overall scope of the project and the benefits that will be derived, Livability22202 strongly recommends that opportunities for undergrounding portions of Route 1 be examined in the study. This undergrounding could consist of underpasses at selected intersections such as 18th and 23rd Streets and would be similar to what is proposed in the CCSP for “National Circle.” With Route 1 underpasses at 23rd and 18th Streets, the concept would essentially create limited-delay through-lanes similar to what is found in the District of Columbia and other cities. For example, at many of the historic L’Enfant circles in Washington, thru traffic is carried below-grade and local traffic uses the at-grade street network.

Recognizing the potential of construction difficulties adjacent to the Metro tunnel that lies below 18<sup>th</sup> Street, passing Route 1 beneath 18<sup>th</sup> Street would offer the perfect solution to all stakeholder wants and needs. Safe east-west movement and transit operations would be preserved, Route 1 frontage would be daylit, and an 18<sup>th</sup> Street S structure could provide enhanced spaces for pedestrians and bicyclists.

In addition, at 23<sup>rd</sup> Street South, passing Route 1 through-traffic under a single-point intersection at-grade (similar to the CCSP configuration for Route 1 and 15<sup>th</sup>, except with an underpass instead of an overpass) would solve the substantial queuing and pedestrian safety issues at the existing intersection, and its close-by Eads and 23<sup>rd</sup> neighbor. Considering a

roundabout for this intersection of 23<sup>rd</sup> Street and Route 1 entering/exiting traffic could provide further traffic and safety benefits.

Combining this underpass concept at 23<sup>rd</sup> Street with the underpass design envisioned in the CCSP for the Airport Access Road, would create an exciting opportunity to create an open space deck between 23<sup>rd</sup> Street and the Airport Access Rd, over a new Route 1 through-lane trench. This is now among the worst streetscapes in the area, with the traffic and safety problems at 23<sup>rd</sup>, and a huge ugly overpass blocking any reasonable redevelopment ideas south of 23<sup>rd</sup> Street anywhere in its vicinity. This concept would solve side-street traffic issues, create far-safer pedestrian crossings, create a brand-new open space in what is now wasteland, and open up myriad redevelopment opportunities.

### **Livability22202 Alternative D: “Big Dig”**

The opportunity to underground a more substantial portion of Route 1 should also be examined in the study. To make this practical, Livability22202 recommends that a concept to provide reversible, peak-hour express lanes for through traffic be explored. This concept would consist of an at-grade boulevard from approximately 23rd Street south, but with three to four reversible express lanes located below grade for the entire length of Route 1 from south of 23rd Street to resurfacing north of 15th Street and transitioning to the 12th Street overpass. The express lanes could be located directly below an at-grade boulevard accommodating local traffic. This concept should allow an overall narrower street R.O.W than the 140- to 160-foot R.O.W. envisioned in the CCSP, and as such could potentially offset part or all of the additional cost of the concept by capturing more land area for commercial development. This concept for below-grade express lanes could offer some significant urban design and safety advantages, and even if Arlington County and VDOT are reluctant to consider such an alternative, now is the time to make an effort to give it a fair evaluation in order to smooth the process for implementing other concepts should a “Big Dig” solution prove to be infeasible.

### **Livability22202 Alternative E: One-way Pair**

Given the large land area that the Route 1 ramp complex currently occupies at 15th Street, there is potentially an opportunity to split Route 1 into a pair of one-way streets in this area, with provision of developable area between the two streets. This concept would improve pedestrian and bicycle safety at this area by creating two narrow streets with smaller curb-to-curb widths at each one-way street than the overall curb-to-curb width of the urban boulevard. With the land area available approximately matching the Wilson Boulevard/Clarendon Boulevard one-way pair at Highland Street, the urban design characteristics could be similar to this area by the Clarendon Metro. This condition is also similar to the existing Route 1 condition as it passes through Old Town Alexandria.

### **Livability22202 Alternative F: Re-envisioned Elevated Route 1**

Consider replacing the big embankments that the highway is built upon with a viaduct structure design that permits open space and/or retail spaces under the roadway. While this variation may not address developer concerns over the elevated roadway, placing the elevated roadway on a structural pile base rather than an embankment introduces the possibility of activating

spaces beneath it with shaded open space, and retail or other building uses. A new elevated highway structure could also incorporate context-sensitive design architecture that allows it to complement the view, rather than mar it. This concept potentially has some similarities to the Alternative 3: Crystal City Sector Plan Concept that we understand is being analyzed in the VDOT study, as we have noted in our Appendix C which clarifies our understanding of the VDOT study alternatives.