Design Process Issues

- Why was no effort made to reach out to Brook Road residents and businesses and solicit their opinions on this project? Many believe that there has been little or no information about the bike lanes communicated to them.

  - The concept for this project dates back almost 20 years. The Brook Road Separated Bike Lane Project design process began as part of an effort to develop separated bike lanes throughout the City on ten different corridors.
  - DPW has been consistent in its public outreach efforts for the Brook Road Separated Bike Lane Project (which consists mainly of pavement markings) with several news stories and paid advertisements. In May 2018 alone, DPW bought four paid advertisements in two local papers expressing a willingness to hold additional public meetings; however, no one from the community expressed an interest.
  - The following outlines the City of Richmond’s and its partner’s public engagement:
    - 2000 Master Plan
    - 2004 Richmond Regional Bicycle and Pedestrian Plan
    - 2010 Mayor Jones’ Pedestrian, Bicycle, and Trails Commission Report
    - 2013 Richmond Connects, Strategic Multimodal Transportation Plan
    - 2015 Bicycle Master Plan
    - 2015 VUU / Chamberlayne Neighborhood Plan
    - 2016 Conceptual Alternatives Public Meeting.
    - 2017 Safe and Healthy Streets Commission Meeting.
    - 2017 Final Design Plans posted online
    - 2018 Posted willingness to host additional public meetings (May 2018).
    - Numerous Council District and Neighborhood Meetings.
    - Public Engagement and Outreach through non-profit organizations within the community

- The following outlines the City of Richmond’s policies adopted through City Council and its appointees that were used to inform the Brook Road Separated Bike Lanes Project:
5. **Council Ordinance No. 2016-002** adopting the VUU / Chamberlayne Neighborhood Plan.
7. **Council Resolution 2017-R093** supporting a Vision Zero Program.
8. Safe and Healthy Streets Commission Resolution in 2017 supporting Brook Road Separated Bike Lanes Project.

- Have other bike lane alternatives to Brook Road been considered? For example, Hermitage to Leigh or Broad? Or Seminary Avenue? Or Richmond Henrico Turnpike to Downtown?
  - As outlined in the answer above, alternatives were analyzed in the various planning level studies and determined that Brook Road should be a corridor with separated bike infrastructure and implemented as a high priority. The goal of the Richmond Bike Master Plan is to create a network of connected bike corridors. Hermitage Road is another corridor that will serve connections from Northside neighborhoods to the Fan District.

**Parking**

- How will the parking of service vehicles along Brook Road be accommodated? E.g. landscaping companies, home improvement/repair contractors, cable TV, package delivery, etc. Many of these contractors need to offload their equipment.
  - Parking will be retained along the length of the corridor and function largely in the same manner as currently exists, albeit with a permanent “floating parking” lane.
  - Commercial uses, including deliveries and service providers will utilize the parking lane as they would with the existing parking lane, while simply watching for bike traffic when crossing the buffer area and then the bike lane.
  - Parking areas will be delineated where the spaces do not conflict with sight distance, traffic signal operations, or turning radii.
  - Larger or more complex projects by adjacent properties will still require a Work in Street Permit through Room 110 to work in the public right-of-way.

- Elimination of CIC parking will create hardship on businesses and residents in this M-1 Zoning District. Businesses are allotted a certain number of spaces on the street as part of their required parking. Reduction of lanes and elimination of spaces will create a disruption while violating the Zoning Code.
  - Though some parking spaces will be eliminated for improved sight distance and to accommodate travel lanes, parking in the CIC is intermittent and often underutilized. More capacity exists than is currently used.
The primary area of parking impacted is south of Mitchell Street near the CSX railroad line which presents a safety issue with existing limited sight distance to parked vehicles around the curve.

Parking areas will be delineated where spaces do not conflict with sight distance, traffic signal operations, or turning radii.

Approximately 1000 feet of Brook Road from Lombardy to the CSX rail crossing will have more than one through travel lane.

Regarding zoning, infrastructure improvements do not violate the zoning code requirements if the improvements are for the common good. Businesses are not allotted on street parking spaces as they are for public use. In general, abutting parcels may use available on street parking on the adjacent streets to count towards their off street parking requirements and zoning code does not specify a particular distance. The practice of allowing on street parking to count as off street parking began in 2015. There are almost 100 parking spaces provided on Brook Road from the CSX railroad to Lombardy Street.

How can residents safely exit their driveways due to increased traffic congestion and the need to back into the bike lane, parking lane and motor vehicle lane?

Additional space for people to maneuver into their driveways will be provided as the bike lane (5’), buffer (4’), and parking areas (8’) comprise 17 feet of space (along with the no parking clearance for sight distance) that vehicles can safely use to exit their driveways. Today only 8 feet of parking space is provided from the curb and effective speed management does not exist. There will be more space and slower speeds on Brook Road for exiting vehicles once the Brook Road Separated Bike Lane Project is constructed.

Emergency Response

Access to emergency services will be hindered and delayed. Won’t it be more challenging for emergency vehicles to maneuver, with longer response times?

Per Fire Chief and Police Chief, emergency response will not be impacted after the completion of the bike lanes.

A good example of the future cross section may be observed on Fairfield Avenue from Oliver Hill Way to Mechanicsville Turnpike on US Route 360; however, Brook Road has more buffer and parking space.

The flexible delineator posts are designed to fold down under the emergency vehicle if needed; however, they are positioned to be out of the way of the first responder.

Pavement markings do not impacted emergency response.

Turn lanes, retained intersection capacity, and the parking lane will allow vehicles to pull to the side, out of the path of emergency vehicles throughout the length of Brook Road.
Brook Road Bike Lane Design

- How will Brook Road bike lanes be different from Franklin Street? Won’t there be similar parking and congestion issues? Won’t drivers experience similar blind spots making turns across the floating parking lane? Won’t emergency vehicles need to make 3-point turns like they do on Franklin Street?
  - Brook Road has been designed very differently than Franklin Street. Notably, the bike lanes are not two-directional, the parking lane will allow parking 24-hrs per day unlike Franklin which requires that the “floating parking” lane serves as a peak-hour travel lane. Brook Road has more right-of-way width than Franklin Street and the proposed design utilizes the existing space.
  - The parking lane will be designated with pavement markings, making clear where vehicles may park, including preventing parking too close to intersections and driveways. This will ensure that large turning vehicles have plenty of clearance to navigate the intersections.

- How wide will the parking and travel lanes be?
  - Lane widths will typically be 8’ for parking and 11’ for travel lanes

- Will pylons like the ones on Franklin Street be used to separate bike lanes from motor vehicle lanes? How will they be maintained and protected from snow plows? The bike lanes are not wide enough to accommodate emergency vehicles that go through the pylons.
  - Flex posts will be used, but sparingly. The posts will be used primarily at the ends of the parking lanes and at intersections to delineate the end of parking zones and to maintain proper corner clearance for turning and sight distance. The spacing of posts will be much greater than on Franklin as it is a different corridor and not a downtown street.
  - Plowing will occur in the travel lane, not the parking lane or buffer area, reducing the potential for strikes by plows.
  - The posts will be spaced widely which will allow larger vehicles to pull to the curb when needed for maintenance or construction. The posts are made of a flexible material that will allow vehicles to drive over them if needed to access a specific location along the curb.

- When the four travel lanes at major intersections narrow to two lanes, who has the right-of-way? How many feet before the traffic signal will the road return to four lanes, and how many feet past the intersection will it narrow back to two lanes? How will these lanes be marked? There are already backups at these signals. Won’t these get even worse?
  - A single through-lane is maintained for the majority of the corridor. At several busier intersections a second through lane is added to ensure the intersection capacity is maintained.
  - There are no locations where four lanes narrow to two lanes. Traffic at major intersections will have the use of dedicated turn lanes (both left and right), and two through lanes. The right through lane merges after the intersection and will be marked as a standard lane drop and merge condition in accordance with engineering design standards.
Prior to the traffic signal, the design team has provided at least 250’ to allow the road to return to four lanes, and following the intersection, provided 250’ to accommodate merging. These are the equivalent of nearly a full city block and follow national best practices and are based upon the speed limit of Brook Road.

The signal-controlled intersections along Brook Road which will retain two through lanes in each direction (at Azalea, Laburnum, Brookland Park, and Westwood), will match the existing condition. Capacity through these intersections will not change. As an example where one through lane in both the northbound and southbound direction will be removed (e.g. Lombardy Street intersection), the level of service during each of the peak traffic periods remains at a level of service B or better, with a negligible increase in delay of (i.e. ~1-2 seconds per vehicle on average).

- The turn lanes in front of major intersections will be too short; currently there is room for about 3 cars per intersection, then traffic backs up into the through travel lanes. Won’t these backups get worse?
  - Where two through lane approaches are retained at the major intersections, there is no substantial difference from the existing conditions.
  - Additionally, where queue spillback is routinely detected today and in the future, traffic signal phasing and retiming can address these issues as they develop. Phase III of the Richmond Signal System expansion is under design and will be under construction in FY20 to permanently connect all the Brook Road and Chamberlayne traffic signals to the CENTRACS traffic management software to allow for actuated coordinated timing plans to be implemented to minimize stops and starts in these important Northside corridors.
  - If there is a malfunctioning traffic signal, please contact 911. If there is a current signal timing issue, please contact 311.

**Truck Accommodations**

- There are safety concerns at Chamberlayne Industrial Center (CIC) south of Lombardy due to all-day truck and tractor/trailer traffic. The large volume of vehicles along the corridor makes it hazardous for trucks and bikes. The heaviest truck times are morning and afternoon drive times, when cyclists are commuting. Visibility is often impaired, creating even more danger to cyclists. There is a need for a current traffic study in the CIC.
  - This section of Brook Road has the lowest average annual daily traffic volumes in the corridor and the best safety record.
  - Sight distance is one of the primary drivers in setting where people may park. Sight distance by design rather than default is a major improvement for this section of Brook Road.
  - The Brook Road design incorporates the safe movement of larger vehicles including trucks and emergency response.

- Brook Road is dangerous now because the truck prohibitions and speed limits are not enforced. Sometimes trucks get lost and must traverse Brook. How can they safely maneuver with only one motor vehicle lane?
Please see answer above. Truck movements and emergency response will be accommodated in the proposed design.

- The CIC needs infrastructure like ramps and road improvements with better interstate access pursuant to the VUU/Chamberlayne Master Plan adopted in 2015. Currently many trucks and tractor/trailers have to make U-Turns to get on the interstate. If U-Turns are impossible, this truck traffic will be diverted to surrounding neighborhoods. Bike lanes are not a priority in this Master Plan, will restrict efficient truck transit, and will be hazardous in these areas.
  - The VUU/Chamberlayne Master Plan denotes future concepts on Brook Road that includes bike infrastructure.
  - Trucks will be able to coexist with all other modes through the proposed design with bicycle traffic connecting to downtown Richmond.
  - Future ramps to the interstate are not included in Brook Road Separated Bike Lane Project as this is a federally funded Highway Safety Improvement Program project focused on improving safety and ramps are not included in the project scope.
  - Adding bicycle infrastructure through road diets have shown great safety benefits.

Traffic Signal Operations

- Side street traffic signals are not timed very well, creating the potential for more backups. What happens to traffic and safety concerns on these side streets? How can major disruptions be avoided?
  - If there is a malfunctioning traffic signal, please contact 911. If there is a current signal timing issue, please contact 311.
  - Several intersections are being retimed based upon current land use and safety criteria.
  - Side street capacity and operations are not anticipated to be impacted by the Brook Road Separated Bike Lanes Project.

Traffic Management

- More motor vehicles will take Chamberlayne Avenue as an alternative to Brook Road, adding to congestion on that road. How will this be taken into account?
  - Brook Road has much greater capacity than Chamberlayne Avenue, yet carries only half of the traffic volume.
  - Brook Road was identified in the City’s Strategic Multimodal Transportation Plan as having excess capacity and being appropriate for a Context Sensitive Redesign
  - Removing capacity (i.e. an extra travel lane) on Brook Road that is underutilized does not typically shift traffic. Brook’s five lane section has significantly more capacity than the current traffic volumes demand. The negative impacts of extra capacity present themselves in speeding and other safety issues along Brook Road. By removing the excess capacity, the high speeds that are typical on Brook Road would be mitigated and traffic would be more likely to travel at the posted speed.
  - The Critical Lane Analysis conducted for the Brook Road Separated Bike Lane Project resulted in design details that would ensure acceptable Levels of Service (LOS) during the brief periods of peak-hour travel on Brook Road. As a result, the project would have
marginal impacts on delay and would be well within acceptable levels, thus there would be little to induce traffic to switch from Brook Road to Chamberlayne Avenue since the LOS would remain better than that along Chamberlayne Avenue.

- Actual travel times on each corridor would dictate any potential shift between corridors and the City is committed to a balanced approach for all modes on both corridors that prioritizes the safety of people over moving traffic.

- Brook Road is an alternate route for traffic that detours off I-95 due to accidents. What will happen now with additional congestion on these frequent occasions?
  - Please see answer above. When incidents occur on I-95, Brook Road may continue to serve as one of many alternatives and there is capacity to support additional traffic.

**Special Events**

- There is likewise increased traffic on the 4th of July, Marathon weekends, Labor Day and Race Week. What will happen now with additional congestion on these frequent occasions?
  - These are special events that will be monitored as they are today by the Richmond Police Department and the event sponsors.

- Traffic during Virginia Union University events is already heavy, with parking a serious issue during student move-in, football and basketball games, concerts and graduation. Has the impact on the neighborhood and VUU during these times been considered?
  - Please see answer above.
  - Parking is provided on Brook Road within the proposed design as sight distance, traffic signal operations, and turning movements will safely allow.

**Transit Operations**

- How will the GRTC bus stops on Brook Road be accessed?
  - GRTC transit stop locations have been identified and accommodated through the proposed design.

**Trash / Recycling Pickup**

- Much of Brook Road is front door pickup for trash and recycling. How will refuse collection vehicles be accommodated?
  - Refuse collection will still be provided on Mondays 6:30AM to approximately 3PM for Brook Road.
  - If there no parking available in a particular block, then traffic may be impacted briefly for the refuse collection operations to occur in the section where Brook Road has no alley access.

**Alley maintenance**

- It is impractical to park on side streets or alleys since the sidewalks are tripping hazards and alleys are poorly maintained. What can be done to accommodate those who want to access their homes from the rear when they do not feel safe stepping out of their car into traffic on the main road?
Where alley or sidewalk maintenance is needed, please call RVA 311.

**Snow Removal**
- Bike lanes will disrupt snow removal.
  - Snow removal will still occur on Brook Road.

**Leaf Collection / Bulk Pick-up**
- Bike lanes will disrupt leaf collection.
  - Residents are encouraged to set out up to 10 bags of leaves to be picked up on their regular trash collection day.
  - Bulk trash services will still be available to access properties.
  - Vacuum truck services for leaf collection will still be able for a fee to access properties.

**Median Maintenance**
- Bike lanes will disrupt median maintenance. Currently the City places cones around the medians while maintaining them. How will this work with only one motor vehicle lane?
  - Median maintenance is performed in the southbound direction and will continue to be serviced after the Brook Road Separated Bike Lane Project is complete.

**Street Cleaning**
- How often will bike lanes be maintained?
  - Street cleaning will continue on a targeted monthly basis as part of Route 4 and Route 5 Street Cleaning schedules.

**Franklin Street**
- Many cyclists on Franklin Street use the motor vehicle lane instead of the bike lane. Will the same thing be allowed on Brook Road? Won’t this add to traffic congestion?
  - Bicycles are vehicles per the Code of Virginia and may travel on any street or highway not specifically prohibited (i.e. limited access facilities like I-95 or I-64). Cyclists may use any lane on Franklin Street, particularly if they are about to turn left or right from Franklin Street.
- No consistency in the marking of bike lanes adds to the confusion. Brookland Parkway, Leigh Street and Franklin Street are all different. Will Brook Road be different also?
  - The preferred national design practices are to place people who bike next to the curb where possible. The City has adopted this design practice to improve the safety and comfort of people of all ages and abilities who want to bike.
  - All current bike lanes in the City are consistent with engineering standards. The state of the practice has evolved rapidly in the last few years, however the City’s designs are moving towards greater uniformity.
  - The City and our community partners have been working to create and disseminate more educational materials for drivers and bicyclists. Additional driver education materials are available for wide distribution:
- City of Richmond Bike Pavement Marking Video
  https://www.youtube.com/watch?v=u3zPQU4cCvE
- An online resource for the City of Richmond that has the various types of infrastructure and their use/meaning http://www.sportsbackers.org/wp-content/uploads/2015/06/printablebooklet.pdf
- Accompanying Map of Richmond describing bike infrastructure with photos and explanations
  http://www.arcgis.com/apps/MapTour/index.html?appid=f61f7997ca474b63b39d5c5c1c3a936b

Flooding
- Frequent Brook Road flooding creates additional dangers to all vehicles that will be exacerbated by motor vehicle lane reduction. Flooding near the CSX tracks often results in hydroplaning. A reduction in lane space would add to these dangers.
  - The Brook Road Separated Bike Lane Project consists mainly of pavement markings to add bike infrastructure and will not change the grade or cross section of the physical roadway.
  - Brook Road at the rail crossing is still a four lane section from Mitchell Street to Charity Street.

Railroad Tracks
- Railroad tracks at the intersection with School Street are currently hazardous to vehicles and bikes. How will this be remediated with even more bike and car traffic?
  - The City is working with CSX to remove these railroad tracks.
- The CSX railroad track adjacent to the Police Stables will force bikes to detour to the busy intersection with Chamberlayne Avenue. Trains go through this area at least once per hour with at least two stopped on the tracks for a significant time during the day. Diversion to Chamberlayne will create additional hazards.
  - This is an existing known condition and the proposed Brook Road Separated Bike Lane Project is intended to benefit cyclists on Brook Road.
- Has the potential for additional disruption due to high speed rail been taken into consideration?
  - High speed rail is not an issue to the successful completion of the Brook Road Separated Bike Lane Project.

Safety Culture
- Many cyclists do not obey traffic rules. Will they be required to stop at red lights or ride exclusively in the bike lanes?
  - People who ride bicycles are considered a vehicle by the Code of Virginia and must follow all of the applicable laws to safely operate on our streets.
Brookland Park Boulevard

- The existing bike lanes on Brookland Parkway are unsafe; the width of the lanes and poor markings are significant problems. Won't bike lanes on Brook magnify these problems?
  - The proposed Brook Road Separated Bike Lane Project will improve the safety and operations at the intersection of Brook Road and Brookland Park Boulevard. An additional through lane is proposed for westbound Brookland Park Boulevard to increase the operational efficiency at the intersection. This through lane will be merged west of the intersection.
  - The Brook Road Separated Bike Lane Project design is different than the buffered bike lane design on Brookland Park Boulevard as it does not allow motorists to travel in the bike lane if vehicles are parked on Brook Road. This design eliminates any potential violation of vehicles traveling in the bike lane.
  - There have been no reported bike crashes on Brookland Parkway.
Westwood Tract Master Planning Questions

- What will be the impact of 300 new homes at the new Canopy development on the Westwood Tract? How many more cars will there be and how will the additional traffic be addressed? Where will visitors to the Canopy be able to park?
  - There was a traffic impact study conducted for 301 apartments in a by right development and accepted by the City of Richmond. It is available for review.
  - Parking will still be permitted on Brook Road where it does not interfere with sight distance, signal operations, or turning movements. Additional off street parking is provided by the development as they provided nearly 100 extra parking spaces beyond the requirement.

- There are only two ways to get in and out of the Canopy, and the turn lanes are too small. Traffic exiting from the Canopy is forced south one way onto Brook Road, requiring traffic going north to make a U-Turn. How can additional congestion and delays be avoided?
  - Westwood Avenue, Rennie Avenue, and Brookland Park Boulevard do not have any left turn restrictions proposed. The Canopy at Ginter Park Project, under construction, has access from Brook Road and Westwood Avenue.
  - The Canopy at Ginter Park Project is committed to increasing the size of northbound left turn lane on Brook Road to turn onto Westwood Avenue.
  - The City will continue to monitor Brook Road after the Brook Road Separated Bike Lane Project is implemented.

- Increased traffic will lead to more side street cut-throughs in Sherwood Park and other neighborhoods, creating additional public safety concerns. Rennie Avenue will definitely become a cut-through to Brookland Parkway and beyond.
  - The City’s goal is to manage traffic in place through its Residential Neighborhood Traffic Management Program. As any issues arise related to speeding, this program has been established to work with residents, emergency responders, and council to implement traffic calming features or additional fines as the data couple with citizen input determine the need.
  - Increased traffic and dispersion on side streets resulting from development and land use changes (e.g. Veritas School) is unrelated to the Brook Road Separated Bike Lane Project and the proposed traffic operations on Brook Road.

- Westwood Avenue will become even more congested during Veritas School drop-off and pick-up times. There are currently 600 students at the school and more on the way. How can traffic and safety concerns be addressed in this area?
  - Westwood Avenue has capacity for additional traffic. In the past, a major hospital operated near the location with Brook Road and has since changed its use.
  - There are no plans to widen Westwood Avenue; however, there are travel demand management tools that may be used by the school to reduce congestion at the drop off and pick up times.
  - Generally, these known pick up and drop off times are short periods of congestion that dissipate quickly once the pick-ups or drop-offs are complete.
o Traffic volume data has actually shown a decrease in recent years, likely due to the land use changes and the reduced trip generation during that period of transition.

- The previous Westwood Tract traffic study was not credible for any number of reasons. Why won’t the City administration conduct another one?
  o City Council Resolution 2017-R015 requesting a comprehensive traffic impact study for the Westwood Tract development stated there was “no fiscal impact” but did not acknowledge the true cost to conduct the transportation planning study. Further, from recent comments to the public, this seems to have evolved into a request for a comprehensive, long-range neighborhood-wide planning study that considers future land-use, zoning, development scenarios, etc., and not merely a traffic impact study associated with The Canopies, which will increase the scope and cost of any such study. DPW has provided guidance to DPR to conduct a transportation planning level study and satisfy the resolution; however, it remains unfunded.
  o DPW elected to proactively mitigate concerns regarding the Westwood Tract development with regard to the Brook Road Separated Bike Lane Project. The design retains two through lanes at Westwood Avenue, despite the traffic analysis showing an excellent Level of Service (LOS) during the peak period with only one approach lane. Further, as the City adds additional residential density and destinations along the corridor, should DPW not be proactive in making Brook Road more multi-modal and conducive to using transportation options beside private automobiles when one in five households have no access to vehicles and 85,000 residents have no driver license?
  o The Brook Road Separated Bike Lane Project evaluated existing traffic and accounted for additional traffic at the intersection of Westwood Ave following development at The Canopies. However, a master plan study is speculative about what may occur. The engineering studies associated with the Brook Road Separated Bike Lane Project implements the desires of the public based upon solid research, and the planning and engineering of multiple professionals and consulting parties.

- There are future land use concerns that were not anticipated by the previous traffic study. What if an additional 600-900 homes are built on the Westwood Tract? How will even more serious congestion be avoided?
  o Please see answer above. This is a master plan study request and not associated with the engineering study required to design the Brook Road Separated Bike Lanes Project.
  o The Brook Road Separated Bike Lane Project was designed to accommodate the current level of traffic, as well as to accommodate the increased volumes at the intersection of Westwood Ave related to the current development.