E Virginia Avenue Frequently Asked Questions:

1. What is being implemented along E Virginia Ave

A buffered bike lane, denoted by simple markings on the pavement, that gives bicyclists a separated space from vehicles, will be implemented from S Kearney St to S Niagara St. Parking will be removed from both sides of the street along this extent.

2. When will the project be installed?

The bike lane is scheduled to be installed along E Virginia Ave from S Kearney St to S Niagara St in August 2020.

3. Is this project being phased?

Yes, the project extent from S Kearney St to S Niagara St represents Phase 1. Phase 1 accomplishes the following:

- Provides critical, safe connection to the west at Garland Greenbelt Trail
- Safer Crossing of Monaco Pkwy
- Connection to S Niagara St, a recommended neighborhood bikeway in DenverMoves: Bikes. Neighborhood bikeways include only signage and pavement markings to communicate the street is safe and comfortable route for bicycling. This bikeway type does not result in the removal of parking. DOTI is currently evaluating opportunities to implement this connection in the short term.

This phasing also acknowledges the following:

- A stronger connection on S Quebec St is needed; more analysis is required
- Community concerned with parking loss – phasing reduces impacts
- Phasing provides more time for coordination with Community and Denver Green School. The loading zone in front of Denver Green School will not be removed during this phase of the project.

More details on this phasing can be seen here (fast forward to 19:25):
https://www.youtube.com/watch?v=5uDQsqTNqQ&feature=youtu.be

4. What does Phase 2 entail? Is DOTI simply delaying the implementation of the bike lane to the east?

No. Phase 2 requires research that will lead to the different answers. Based on the answers to these questions, the solution for continuing a facility east of Niagara St on Virginia Ave could be different.
Phase two work will entail:

- Evaluating options to improve mobility for bikes/pedestrians along & across S Quebec St
- Collecting additional traffic data on E Virginia Ave, east of Niagara St
- Confirming approach to completing connection to S Quebec St

5. Why was E Virginia Avenue selected for a bike lane?

Community feedback collected in planning efforts like Blueprint Denver/Denveright and Denver Moves: Bicycles have shown that Virginia Ave is an ideal corridor for a bike lane because it connects destinations like schools, trails and other proposed bikeways in the neighborhood.

The 2011 Denver Moves Bike Plan, and subsequent updates, set the goal of getting every household within a ¼-mile of a high “ease-of-use” bikeway. Virginia Ave forms part of the overall bike network of facilities within ¼-mile of each other citywide. The bike lane connects to the Garland Greenbelt Trail on the east, and S Niagara St to the east. S Niagara St is a proposed neighborhood bikeway in DenverMoves: Bikes. Over the next three years, Denver will implement more than 125 miles of bikeways, completing local bike networks and connecting more Denverites to safe and comfortable streets.

6. Why do we need bike lanes?

Some bicyclists are comfortable riding on any road, with or without a bicycle lane. However, it is a city-wide goal is to increase the number of people bicycling, especially those who do not bicycle today because they don’t feel comfortable doing so. Research of metro-Denverites indicated that only about 16% of people feel comfortable riding on Denver’s streets today; the majority of people (59%) would bicycle, but only if safe, convenient bikeways are provided. Expanding bicycle infrastructure, such as the E Virginia Ave bike lane, is intended to serve the 59% of people who would like to ride their bike, but currently do not feel comfortable doing so.

In 2017, Denver adopted its Vision Zero Action Plan. The key tenet of Vision Zero is that no traffic facility or serious injury is acceptable, and Denver should actively work towards eliminating these events on its roadways. Bicycle lanes have a documented safety benefit for people on bikes and other users of the road. Research from cities across the US (including Denver) demonstrates that cities with more high-quality bike infrastructure have 44% fewer traffic deaths and injuries overall. Installing bike lanes on appropriate streets is one tool that Denver can use to achieve its Vision Zero goal.

A citywide network of bicycle lanes is part of Denver’s plan to keep our transportation system operational as Denver’s population grows. For Denver to continue to grow without choking on congestion, we need to make it easier for people to go to work and to school, to childcare, to parks and groceries and local businesses without relying on a car. Across the US, 46% of all the driving trips that
people make are less than 3 miles long—and in urban areas, 49% of vehicle trips are 3 miles of shorter. 22% of driving trips are less than a mile long (23% in urban areas). Since bicycles are ideal vehicles for this distance trip, they can serve as a viable transportation mode for most people for most trips if proper infrastructure is in place.

In addition, securing a working transportation system long-term, shifting transportation modes away from single-occupancy vehicles is necessary to reduce the City’s climate change footprint and reduce health-harming emissions. Bike lanes, like the E Virginia Bike lane, represents one component of a network that will help advance Denver towards these goals.

7. Has bicycle data been collected for E Virginia and is there enough volume to justify bike lanes?

Yes, bicycle counts have been conducted. Bicycle counts are not requisite for the installation of a bikeway. Studies have consistently shown nationally and locally, that when infrastructure is built, and space on the roadway is designated for people on bikes, it is used. Additionally, cities with the most miles of bikeway facilities, all things equal, exhibit the lowest rates of all mode crash types. Building out a network of bikeways therefore benefits all roadway users, even those who choose not to bicycle.

8. Why is it acceptable to remove parking along “our” corridor to accommodate the buffered bike lane?

People frequently call streets, “our streets,” or, ”our parking”, but these titles incorrectly assume private ownership of a public resource. The public streets in Denver are a public good, maintained and operated by DOTI to provide benefits to people beyond those who live adjacent to streets. It is DOTI’s responsibility to assess the use of this public good, and ensure that the highest-and-best use is maintained, which is determined by planning documents, including DenverRight, Blueprint Denver, Denver Moves, that represent the vision thousands of Denver’s people.

Additionally, most homes along Virginia front a side street. For the 13 homes that do front E Virginia Ave, these homes have access to a side street either adjacent or across the street within 200 feet. There is a large network of streets in the neighborhood that have available on street parking. Additionally, these homes have driveways/garages for the storage of vehicles on their property.

To assess the benefits of on-street parking and trade-offs, DOTI conducted parking use studies on Virginia Ave. These studies show that current use of on-street parking is quite low: 15% of the lane is utilized at typical peak times of the week. While we recognize that some residents perceive great value in having on-street parking available, it is not the best use of this valuable space given its current utilization.

In order to determine the effects of any project that changes conditions and uses on the city right-of-way, DOTI collects data on existing conditions. Since this project will remove on-street parking, DOTI staff
conducted parking use studies throughout the corridor. DOTI follows an approved parking utilization analysis process that collects data at three different points in time to provide a wholistic picture of use. Per DOTI’s approved parking utilization analysis process, utilization of parking is collected during the weekday in the morning, weekday day, and a weekend mid-day.

For this project, data was collected on October 16, 2019 and January 28, 2020. Overall, the rates of use were all low.

This data was originally taken on a weekday evening from 7:00PM to 9:00PM (best practices indicate this is when most people are home with their cars parked) and a weekend Saturday Mid-day 1:00PM and 3:00PM (based on typical peak activity periods). Based off feedback from a Community Meeting for this project held in January, we also collected data on-street parking use during a weekday from 2:00PM to 4:00PM (during school session and pick-up for George Washington high School and the Denver Green School). These studies found that utilization of parking to be relatively low. Even during the highest period of utilization from data collected, between 2:00PM and 4:00PM on a weekday, on-street parking use in the project area was less than 15%. During a less than 2-hr period, two blocks, at Locust St. and Magnolia St. experience parking utilization of more than 50%. This utilization is for a highly-confined period of time associated with school drop-off and pick-up activities. The blocks surrounding these blocks have utilization near zero during this time, allowing for easy overflow of parking available during the that short time period. Consequently, the study concluded that overall impacts of repurposing the parking lane for this project purpose was determined to have minimal safety or mobility impacts.

Given public feedback concerns regarding the impact of removing parking east of S Monaco Pkwy, the bike lane will not be installed this year east of S Niagara St. The bike lane will only be installed through Phase 1 from S Kearny St to S Niagara St.

9. Have the impacts to schools and synagogues along the corridor been considered?

Yes. There are several major institutions along Virginia Ave that are daily or weekly travel destinations for those within the neighborhood and the broader community. These include George Washington High School, the Denver Green School, and two congregations along the corridor. DOTI staff conducted multiple one-on-one stakeholder meetings with representatives of each of these institutions to identify specific concerns and opportunities that result from this project. Where possible, staff addressed concerns, including increasing visibility of crossing S Monaco Pkwy to make it safer for students to bicycle through and installing more crosswalks west of S Monaco Pkwy across E Virginia Ave to make it easier for people attending sporting events to cross the street. DOTI staff worked closely with the Denver Green School to understand existing loading operations, and the impacts that would be incurred if the existing loading zone on E Virginia Ave was removed. DOTI recognized that more work to make this change, given the COVID-19 pandemic and uncertainty around school travel. This was one factor that resulted in the decision to only implement the bike lane from S Kearny St to S Niagara St.
10. What role do vehicle speeds play in this project?

Roadway speeds are collected to determine safety conditions of the corridor and in turn inform the bikeway design. Research indicates that visually narrowing a roadway through striping or other indicators can cause vehicle drivers to travel at more moderate speeds. Bike lanes are believed to help provide traffic calming benefits and research shows that communities with more extensive bicycle infrastructure have fewer traffic related injuries and deaths. Studies of speed on the corridor indicated a moderate speeding concern on Virginia Ave, closer to S Monaco Pkwy. The speeding issue closer to S Monaco Pkwy was another reason the bike lane implementation as prioritized through this intersection.

The community noted that speeding issues may be less problematic east of S Niagara St, due to drainage channels that cross the roadways and force vehicles to slow down. In Phase 2, DOTI will collect more tr

11. What data is collected for speeds and why?

Speed data was collected on Virginia Street via a road tube laid on the corridor. Road tubes are used to detect vehicle axles by sensing air pulses that are created by each axle (tire) strike of the tube in the roadway and can detect both the number and speed of passing vehicles. Tube counts provide the most accurate speed data and are thus preferred to other data collection methods such as a speed radar gun. This road tube was laid on Virginia Ave east of S Magnolia Ln. The tube collected counts on Wednesday, October 16th over a 24-hour period, thus providing a snapshot of vehicle speeds and volumes at all times of day. The speed study, which is linked here, show that most vehicles (the 85th percentile) are traveling at or below 29mph on Virginia Ave, which is 4mph over the local road speed limit of 25mph, and 9 mph over the school zone speed limit, which starts just east of where the data was collected. This indicates a modest speeding concern, most notably during the school hours.

Note that traffic engineers rely on the 85th percentile rule to help assess speed data. Statistically, the 85th percentile speed is slightly greater than the speed is that one standard deviation above the mean of a normal distribution. The theory behind this approach is that most drivers will travel at a speed that is reasonable and prudent for a given roadway segment. If the 85th percentile of vehicles are traveling significantly above the speed limit, traffic engineers will consider treatments on the road (physical or visually narrow or bending the road) to help queue drivers to slow down. Most U.S. jurisdictions report using the 85th percentile speed.

12. Can vehicle speeds be reduced through traffic calming measures other than bike lanes?

There are several options for reducing speeds along E. Virginia, but each treatment is based on context. E. Virginia, as a collector, does not qualify for some methods of traffic calming including vertical speed deflection (speed humps, chicanes) or traffic diversion. The first tool in DOTI’s tool box is narrowing travel lanes. Additional measures can be deployed (speed feedback sign, periodic enforcement) if subsequent studies show that the speeding problem persists. DOTI will continue to monitor speeding on this corridor to ensure the safety of the neighborhood and people using the roadway.
13. Data Collection & Study For Traffic

In order to determine the effects of any project that changes conditions and uses on the city right-of-way, DOTI collects data on existing conditions. Consequently, the project team conducted a traffic study, a crash study, and a speed study.

14. Why can’t we keep parking and still install a bike lane?

The existing right of way between the curbs on Virginia Ave is 36 feet. The safe width of a bicycle lane is dependent on adjacent uses in the right-of-way. When adjacent to the curb (as opposed to a vehicle or parking lane which require additional “shy” distance), a bike lane consistent with city standards must be least 6’ wide (to allow for 4’ of navigable surface adjacent to the 2-foot-wide gutter pan). Vehicle travel lane widths on a typical local road consistent with city standards is 11 feet. Virginia Ave can safely accommodate a vehicle travel lane and a bike lane each direction, but cannot also accommodate on-street parking. The additional two feet available within the road will be used to provide buffer space between the vehicle lane and bike lane that enhances comfort for users.

15. Will trash/recycling/compost pick up change?

No. The proposed buffered bike lane will be separated from the curb by the roadside drainage area and a small buffer. This space can therefore be used for depositing your city bins for pick-up while still allowing bicyclists five feet of travel space outside of the vehicle lane; a safe width. Residents can plan on placing their waste bins in the same place as they have in the past after the bicycle lane is installed.

16. What will the Virginia Avenue Bike Lane look like?

The Virginia Ave Bike Lane will be a buffered bicycle lane adjacent to the street curb. This means the bike lane will be defined by multiple striped white lines that provide a buffer of street space between the curb and the bike lane as well as between the bike lane and the vehicle lane. The bike lane will not include any vertical elements (e.g bollards, curbs). This design is consistent with safety needs on a local street like for Virginia Ave and with city-wide plans adopted through a public process. The picture below provides a good example of what the street will look like once the bicycle lane is complete.

17. Where will guests, service vehicles, etc. park that are coming to my house?

Since on-street parking along Virginia St will be removed as part of this project, visitors will not be able to park on-street from S Kearney St to S Niagara St. Visitors and service vehicles who need park can do so on any adjacent side street where parking is permitted, or in the driveways of homes along this stretch. Every home along this segment of E Virginia Ave has a driveway.
More crosswalks are being added through this project to make it easier to cross the street at S Krameria St. DOTI is studying adding an additional crosswalk at E Virginia Ave and S Kearney St, to provide a higher visibility crossing to the Garland Greenbelt Trail.

18. What community outreach has been conducted for this project?

The Virginia corridor was a recommended bike lane in multiple Denver Planning documents, as shown in the timeline below, most recently the 2019 adopted DenveRight Plan. The Denver Moves plans, as well as the DenveRight plans engaged thousands of residents from across the City and County of Denver. These high-level plans identify locations of bicycle facilities to create the complete bicycle network identified in the goals of the plans and a facility type consistent with the roadway type. Once a project is funded, project design and new outreach specific to the facility is commenced.

In this case, the Virginia Ave project was first brought to stakeholders in late 2019. Project-specific outreach included two public meetings. The first meeting was held in person on January 21, 2020 to provide information to the community about a bike lane on Virginia Avenue and coordination with paving activities, and collect feedback on the implementation of the bike lane. Several stakeholder meetings were then held from February to July 2020. Based on feedback from the first public meeting and the stakeholder outreach, concerns were noted and changes were made to the project based on this feedback, notably:

- Shortening the project to end at S Niagara St to minimize parking impacts to the neighborhood and Denver Green School, and to provide more time to research the connection to S Quebec St,
- Adding a crosswalk at S Krameria St to increase visibility of crossing the street, and studying the addition of a crosswalk on S Kearney St.
- Enhancing visibility of high conflict areas, including the E Virginia/S Monaco crossing, and the driveway to George Washington High School, from E Virginia Ave.
- Studying changes to the S Monaco Pkwy/E Virginia Ave intersection to provide more time for bicyclists and pedestrians to cross the roadway

On July 21, 2020, DOTI led the second public event, a Virtual Open House to share what we heard through the outreach process, presented the bikeway design for the corridor, discussed the removal of parking from both sides of the street to accommodate the bike lane, and answered questions about next steps.

A project website and email also provided opportunities for dialogue in between engagement events. Flyers, yard signs and mailers were used to advertise meetings. A mailing list was also created over the duration of the project.

Mailers were delivered to all homes fronting the corridor where the bike lane will be installed along E Virginia Ave, from S Kearney St to S Niagara St in late July 2020.
19. Did the feedback I provide matter?

Yes – residents provided important feedback that was incorporated in the final design of this project. Several changes to the project design were made based upon feedback provided by the community, notably:

- Shortening the project to end at S Niagara St to minimize parking impacts to the neighborhood and Denver Green School, and to provide more time to research the connection to S Quebec St,
- Adding a crosswalk at S Krameria St to increase visibility of crossing the street, and studying the addition of a crosswalk on S Kearney St.
- Enhancing visibility of high conflict areas, including the E Virginia/S Monaco crossing, and the driveway to George Washington High School, from E Virginia Ave.
- Studying changes to the S Monaco Pkwy/E Virginia Ave intersection to provide more time for bicyclists and pedestrians to cross the roadway.

Concerning the feedback DOTI received about parking - DOTI followed industry best practices for studying utilization along the corridor, which informed the final design. Concerns from the community regarding parking removal were noted, and based on this feedback, DOTI shortened the project extent on the east side to end at S Niagara St (the original western extent was S Quebec St).

This change accomplishes the following:

- Provides critical, safe connection to the west at Garland Greenbelt Trail
- Safer Crossing of Monaco Pkwy
- Connection to Niagara – Commitment by DOTI to advance this connection

While acknowledging the following:

- A stronger connection on S Quebec St is needed; more analysis is required
- Community concerned with parking loss – phasing reduces impacts
- Phasing provides more time for coordination with Community and Denver Green School

For the remainder of the corridor (E Virginia Ave from S Kearney St to S Niagara St), providing an enhanced bicycle facility, which will improve safety for all roadway users, was prioritized over residential parking. While DOTI understands the change is unwelcome by some residents, the public right of way is under DOTI’s discretion to determine the best use. If there are more questions about the implementation of the bike lane. Questions can be directed to bikes@denvergov.org.
20. Will signal timing at Monaco and Virginia be reviewed?

Yes, DOTI is reviewing signal timing at S Monaco Pkwy and E Virginia Ave to determine if more green time can be provided to give more time for people to cross east/west on Virginia across Monaco. This increase in time will be compared to more delay on Monaco Pkwy. A change will be made if delay on Monaco Pkwy is deemed to be acceptable, as it will increase the safety of people walking and bicycling across Monaco Pkwy.

21. Will bike lanes on E Virginia Ave increase vehicular traffic congestion?

No. The same number of general purpose travel lanes will exist after the implementation of the bike lane.