

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
Will the the MetroQuest Survey be made available publicly after this meeting?	Thanks for your question, Whitney. All meeting attendees will receive an e-mail after tonight's meeting sharing a link to the live MetroQuest Survey. You can also find a link to the MetroQuest survey on the project web page: https://www.virginiadot.org/projects/culpeper/zion-crossroads-study.asp
Is that lifecycle for traffic circle calculating the DAILY dozens of heavy-duty freight tractor trailers heading north and south on 15?	Analysis for roundabouts considered the average percentage of heavy vehicles on each approach taken from detailed traffic counts. The average percentage of heavy vehicles was determined during the data collection phase of this study.
Does Kittelson and VDOT have examples of this many traffic circles close together in the real world in Virginia... on a PRIMARY road such as Rt 15? I have never seen a main road using so many roundabouts, only in retail establishments like Westchester Commons in Midlothian - hardly a realistic test zone that involves a Fortune 500 company's trucking traffic and distribution center.	Thank you for the question, Whitney! Carmel, Indiana, has several examples including Illinois Street, Rangeline Road, and Old Meridian Street. Grand Rapids, Michigan, also has examples along Scheuring Road and Monroe Road. Sebreeze Drive in Rochester NY is another example (Titus Ave, Seneca Ave, Point Pleasant Rd, Durand Blvd).
I saw the video zero issue	Thank you for confirming that you can see and hear the video, Whitney.
They probably have their viewer window set incorrectly...	Thank you, Whitney!
Does Kittelson and VDOT have examples of this many traffic circles close together in the real world in Virginia... on a PRIMARY road such as Rt 15? I have never seen a main road using so many roundabouts, only in retail establishments like Westchester Commons in Midlothian - hardly a realistic test zone that involves a Fortune 500 company's trucking traffic and distribution center.	Thank you for the question, Whitney! Carmel, Indiana, has several examples including Illinois Street, Rangeline Road, and Old Meridian Street. Grand Rapids, Michigan, also has examples along Scheuring Road and Monroe Road. Sebreeze Drive in Rochester NY is another example (Titus Ave, Seneca Ave, Point Pleasant Rd, Durand Blvd).
All of your examples of the bowtie claim and show zero traffic build up and no stopping at the traffic light (at Rt 15) after exiting the traffic circle. The sheer number of residents who work in Charlottesville and have to wait at TWO lights on the DDI and NOW will have to go through TWO traffic circles and at least 1-2 more lights to get to their home at the Spring Creek back gate is patently absurd. What if someone was rushing home for a family emergency?	Thank you for the question. With future 2040 traffic projections developed in coordination with Couty and VDOT staff, delays are forecast to increase substantially relative to existing conditions. While the Bowtie configuration requires some out of direction travel, travel times through the area are expected to be on the order of 50% lower than direct movements made via the existing signal, and substantially out-performed other feasible alternatives evaluated.
Why is Hybrid #2 only offering the circle on the Spring Creek Parkway side? Why not a Hybrid 2a/2b where there is a normal intersection to turn left to Starbucks/hotel/UVA Medical/Spring Creek back gate to homes and instead have the traffic circle at the only problematic intersection which is at The Camp Creek Parkway/Market Street intersection. That is the only place that has any problematic traffic issues.	The critical intersection is the US 15/Camp Creek/Spring Creek signal. By 2040, the demand projected at this intersection is so large that it adversely impacts adjacent intersections (like the Camp Creek/Market Street signal). Fore exmaple, there are over 1,000 peak-hour left-turns projected from Camp Creek Parkway onto US 15 SB under year 2040 traffic conditions. By placing the roundabout on the opposite side of US 15, those 1,000+ left turns can be redirected through the signal and processed much more efficiently. This would alleviate the long delays and queue spillback through the Camp Creek/Market Street intersection otherwise projected.
The Kittelson team - what numbers do you all have from your study to account for the number of vehicular traffic in and out from the Walmart DC #7016? How many trucks are you all calculating to go in and out of that location, daily? Does that include freight trucks, normal vehicles and carpools?	Traffic data was collected at the following intersections: US 15/Freedom Trail, US 15/Freedom Drive, US 15/Camp Creek Parkway, and Camp Creek Parkway/Market Street. Data was broken out by heavy vehicles and passenger vehicles. Carpool data was not collected in the field.
If you aren't accepting audio questions then this isn't a public meeting. You all are choosing who to answer and who to hear from. We stakeholders deserve more and better than this!	Thank you for your feedback.
"a few different options" is not looking at all of the options and how long they take	The study team reviewed a wide range of alternatives at each study intersection, including signal timing improvement, addition of turn lanes, extensions of existing turn lanes, and all innovative intersections described in VDOT's Innovative Intersection resource (found here: https://www.virginiadot.org/innovativeintersections/). Several initial alternatives were found to be inadequate/insufficient. Alternatives that were still feasible were evaluated further.
There isn't "a health facility" there are actually over 12 health facilities including primary care, outpatient surgery, pediatric offices, pediatric dentistry, family dentistry, among others.	Thank you for the clarification, Whitney.
This area doesn't have bikes or pedestrians going from one place to another. I suggest that you eliminate the need for having pedestrian and bike paths.	The presence of pedestrians and bicyclists are anticipated to increase with the development of multi-family, mixed use properties along the corridor. Fluvanna and Louisa Counties also have bike and pedestrian pedestrians identified along these roadways in their comprehensive plans.
Why did you use Webinar? Most folks have Zoom. I had to install gotowebinar software at the last minute.	Thank you for feedback, Lawrence! There are several choices for virtual platforms.
The only pedestrians in this area are panhandlers.	The presence of pedestrians and bicyclists are anticipated to increase with the development of multi-family, mixed use properties along the corridor. Fluvanna and Louisa Counties also have bike and pedestrian pedestrians identified along these roadways in their comprehensive plans.
The video at first showed up under the webcams window. With a big screen, I could move the webcams off to the side and see the video.	Thank you for the feedback, Eric!
Are these various proposals doable separately, or do some of them only work with the whole system?	Many of these projects could be implemented as independent projects. One goal of this study is to identify "shelf-ready" projects for local agencies to pursue for individual funding through SMART SCALE or other transportation funding mechanisms.
your analyses for 2040 have shown thru traffic on 15 operates unimpeded; minor streets are not failing	Thank you for your feedback, Robin. The full details of the Year 2040 No-Build Conditions Analysis can be reviewed in the Existing and Future No-Build Condition Report on the project web page under "other relevant links": https://www.virginiadot.org/projects/culpeper/zion-crossroads-study.asp
with exception of 15/cc/sc; and where is your future alternatives analyses and queing reports	Thank you for your feedback, Robin. The full details of the Year 2040 No-Build Conditions Analysis can be reviewed in the Existing and Future No-Build Condition Report on the project web page under "other relevant links": https://www.virginiadot.org/projects/culpeper/zion-crossroads-study.asp
i did your appendices are empty and no tables were provided on the links	Thank you for bringing this to my attention, Robin! We will update the materials on the website as soon as possible to include the appendices.
the organizer has muted folks	Thank you, Robin!
Did you complete a VJuST	A detailed VJuST analysis for completed for each of the 19 study intersections considered in this study. Results will be provided in the final report.
Where do you get the full report and appendices	The full existing conditions report and its appendices have been uploaded to the project website.
and did you run a simulation	For each intersection, existing and no-build conditions were analyzed in Synchro. Synchro or Sidra was used to analyze the different alternatives at each study intersection in accordance with TOSAM guidance.
why did you put the shared use path on the east side? You cross two locations with dual rights and crosswalks; a no-no	Per recommendations of the study's stakeholders, the shared use path was provided on the east side the roadway. The goal of this location was to connect future developments along the corridor. Crosswalks across dual right turns are not proposed/shown at any recommended alternative in this study.
Emergency response time impacts?	Emergency response is not anticipated to change with the construction of any of the proposed alternatives. At the the US 15/Spring Creek Parkway/Camp Creek Parkway intersection, emergency vehicles in an emergency situation would likely make a direct left (with sirens, lights, etc.) as they would at any other intersection under those circumstances. During non-emergency situations, they would follow the appropriate/standard route. The recommended intersection improvements throughout the study intersection reduce delays relative to the no-build condition.
Do you really think a round about will give trucks a better chance of entering from Liberty trail? They have a tough time now and will back up south bound 15 traffic for sure. They need a traffic light. That is the only safe option for the trucks and the local cars.	Operational analysis and modeling indicates that a roundabout Liberty Trail would reduce delays and queue length more than a traffic signal. In addition, roundabouts have been shown to improve safety by removing conflict points that result in more severe crash types (e.g. angle crashes, etc.).

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
Are you kidding me? Instead of waiting at a light to make a left turn, you think waiting at a light going thru a circle and coming up to another light is better? Get real. Please!	Simplifying the traffic signal phasing and using indirect left-turns/roundabouts in the Bowtie design has been shown to substantially reduce delays, particularly for the traditional left-turn movements. A comparison of left-turn delay in the 2040 no-build condition to the Bowtie shows a reduction of roughly 50% - in other words, it would take twice as long to get to your intended destination at the traditional signal compared to the Bowtie.
I spent 60+ years in NJ. Many years ago NJ found that with low traffic volumes roundabouts worked well. As volumes increased, traffic backups became a severe problem. They went through great pains to rip out almost all of the circles in northern and central Jersey. Have you spoken with NJDOT?	Thank you for the feedback, Dennis! To-date, the study team has not spoken to NJDOT for this particular project, but both NJDOT and VDOT both utilize the same national modern roundabout guidance. Older designs of other vintage circular intersection forms (such as rotaries) common in NJ and other parts of New England have indeed been removed and/or retrofitted to a modern roundabout design due to their poor operational and safety performance.
Chris are you kidding. Less full stops for tractor trailers. That in itself is unsafe!	All vehicles may have to stop at intersections, regardless of control (STOP sign, YIELD, or traffic signal). Intersections present inevitable conflict points, and depending on several factors, different traffic control forms may be most appropriate or perform better than others. Roundabouts reduce conflict points at a 4-leg intersection by 75% as compared to a traffic signal, and YIELD control coupled with the inherent geometric design elements of a roundabout allows for more simultaneous movement - thus resulting in fewer full stops.
What is the proposed timeline for this project?	The final report for this study is anticipated to be completed Summer 2022. If local agencies seek to pursue funding of projects recommended by this study, they will be able to submit for SmartScale funding in March 2024.
Will there be a pedestrian bridge from spring creek parkway?	Thank you for the recommendation, Lorraine! A pedestrian bridge has not been considered at this time. A two-stage crossing on Route 15 is anticipated to be sufficient to serve future pedestrian demands.
Has the large volume of 18-wheeler and heavy commercial truck traffic been factored into the amount of time it will take for larger commercial vehicles to navigate a bowtie?	Operational models account for the presence and percentage of heavy vehicles in delay calculations performed in this study. Roundabouts tend to homogenize speeds of all vehicles in the roundabout, and the larger turning radius afforded vehicles by the roundabout circulatory roadway and/or truck apron tends to produce speeds at or greater than dynamically possible compared to turning movements at a traffic signal (smaller/tighter radius).
Is access to Camp Creek Parkway planned from Poindexter Road?	As part of the recommended network of roadways to supplement Route 15 and Route 250's roadways, a connection has been suggested to connect Camp Creek Parkway and Poindexter Road. At this time, this connection is not programmed, but the intention of highlighting this connection in this study is to bring it up for future consideration (e.g., with future development).
What happens if the bowtie adjacent to WalMart backs up and traffic cannot enter from Rt 15?	Operational analysis models indicate that traffic queues will not extend into the US 15/Spring Creek Parkway/Camp Creek Parkway under the bowtie configuration. In fact, the Bowtie is the very solution that addresses this phenomenon which would otherwise be forecast to occur in the design year 2040 no-build condition.
Has the local restaurant and gas station traffic been factored into the overall traffic in the Walmart bowtie? There is significant traffic in and out of the local shops in addition to traffic merely using a bowtie to make a left turn to get into Spring Creek Parkway.	Yes, traffic generated from the restaurant, gas station and other businesses were factored into the alternatives analyses completed by the study team. General regional growth was also considered.
Has anyone considered making Camp Creek one way to enter and use the north entrance to exit?	Thank you for the feedback, Cindy! The study evaluated quadrant roadway configurations to serve the Camp Creek Parkway and Market Street area. However, the study team with feedback from the stakeholders did not determine sufficient operational or safety benefits. More information about quadrant roadways can be found here: https://www.virginiadot.org/info/innovative_intersections_and_interchanges/qr.asp
Will tractor trailers be able to maneuver through the roundabouts?	All roundabouts have been design with a large truck/design vehicle in mind. All designs considered a design-vehicle of a WB-67, a large tractor-trailer. Per VDOT guidance, the study team utilized the "AutoTurn" tool to ensure that design vehicles can complete all movements within the intersection.
So what happens when turning right towards Walmart when heading up 15 from 64 and there is a backup into sheetz ?????	Operational analysis models indicate that traffic queues will not extend into the US 15/Spring Creek Parkway/Camp Creek Parkway under the bowtie configuration or impact entry into Walmart. In fact, the Bowtie is the very solution that addresses this phenomenon which would otherwise be forecast to occur in the design year 2040 no-build condition.
And where's the road from 613 to rt 15 that central Virginian paper mentioned. ???	The extension of Route 613 (Poindexter Road) is anticipated to be constructed as part of the new roadway network to supplement Route 15 and Route 250. This is shown on Slide 21 of the presentation.
Video works	Thank you, John!
What's the projected cost and how would it be split between county's ????	Preliminary cost estimates of the bowtie is approximately \$8 million. This preliminary cost estimate will be refined over the next few months. All cost estimates will be provided as part of this study's final report. If local agencies seek funding for one or more recommendations of this study, these improvements are anticipated to be submitted to VDOT's SmartScale funding process. SmartScale funding is anticipated to cover nearly all of the cost.
How does the orileys and 711 traffic fit in coming out the side ride into bow tie ?? Suprised this has been developed and nearly operating and not included.	Access to the O'Reilly's and 7-11 maintained as shown with the southbound leg to the roundabout. The O'Reilly's has already dedicated the necessary right-of-way for VDOT to develop this leg as a part of their approval/construction, as this access point is intended to provide interparcel access to several developments.
Is there going be consideration for sidewalks?	A shared use path has been recommended to run along the eastside of Route 15 between Spring Creek Parkway and US 250. The study team also recommends maintaining and expanding the existing sidewalks along Market Street and Camp Creek Parkway.
Are you going to share your screen?	Hi Melvin - you should be able to see videos of the Project Team and Stakeholder Group members, as well as a PowerPoint presentation showing project options. The presentation should have popped up to the left of the GoToWebinar window where you are entering comments. Can you please confirm that you can see the presenters and/or PowerPoint presentation?
Coming from Spring Creek south 15 I turn onto Freedom Dr to Market Stand then left on Market ST to go to Walmart. yuwon't do that it could force peeople through Lowes parking lot.	Vehicles are not anticipated to enter Lowe's parking lot. In all alternatives in this area, vehicles will utilize the existing Market Street, Freedom Drive and Freedom Trail.
Was a Rt29/Rio Rd type over/under intersection considered as an alternative to the Bow-tie roundabouts?	A grade-separated overpass was considered at the Route 15/Spring Creek Parkway/Camp Creek Parkway intersection. However, the study team identified several challenges relating to this intersection configuration. The first of which is funding. Interchange projects (such as the Rio Road interchange recently constructed in Charlottesville) was an approximately \$70 million dollar project - this is several orders of magnitude greater than any alternatives proposed in this study. The stakeholder group has expressed similar concerns about the viability of funding projects of that magnitude in this area. Another challenge is the physical spacing from adjacent intersections and local roadway context. The distance between US 15 and Market Street would provides insufficient weaving distance between intersections for vehicles coming over the overpass and those coming from US 15. In fact, the physical distance between the DDI and US 15/Spring Creek/Camp Creek intersection does not meet spacing minimums dictated by federal or state standards for interchange spacing, and even if they did, the residual impacts to surrounding land/businesses would be substantial.
what kind of public driving instruction for bow tie driving?	If funding for the bowtie configuration is sought and obtained, the study team would recommend public outreach regarding proper driving of this improvement. This could include videos, pamphlets, and open houses to help drivers' understanding. Comprehensive wayfinding signage would be developed during future phases of design.

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
What options are there to divert the traffic away from these intersections earlier? Can you provide detail of where the starting point of the projected increased traffic is originating from? Please provide next level statistics.	Thank you for your question, Lauren. Future year 2040 no-build volumes were estimated based on regional growth in the area and in-process/approved developments in the study area. The full details of the Year 2040 No-Build Conditions Analysis can be reviewed in the Existing and Future No-Build Condition Report on the project web page under "other relevant links": https://www.virginiadot.org/projects/culpeper/zion-crossroads-study.asp .
how well will the trucks be able to handle the roundabouts? Will they be large enough for trucks to make a smooth turn?	All roundabouts have been design with a large truck/design vehicle in mind. All designs considered a design-vehicle of a WB-67, a large tractor-trailer. Per VDOT guidance, the study team utilized the "AutoTurn" tool to ensure that design vehicles can complete all movements within the intersection.
nothing is happening. we cannot see anything	Hello Lisa - can you confirm that you cannot Hear And See the video?
i cannot see or hear	I'm sorry to hear that, Lisa. We will post a copy of the video to the project web page following today's meeting.
The video helped to understand. However, I do not see pedestrian or bicycle traffic.	Thank you for the feedback! Because pedestrians and bicyclists are anticipated to use the shared use path along this recommendation, they were not included in this video. Pedestrians and bicyclists are anticipated to navigate the bowtie and US 15/Spring Creek Parkway/Camp Creek Parkway intersection as they would with any other roundabout or signalized intersection.
Will the pedestrian crossing bridge be ADA accessible?	Yes. Per VDOT guidance, any implemented pedestrian facilities are anticipated to be ADA accessible.
Hoping there will be beautification efforts in the entire area.	Thank you for the feedback! The study recommends gateway signage to introduce the Zion Crossroads area at key area entry points along the corridors.
I can see it.	Thank you, Claire!
My question is probably for a future meeting: what are the results of the public transportation survey? Will those issues be addressed prior to these traffic movement proposals?	Thank you, Claire! A summary of this survey will be provided in the final report. In addition, the study team and the stakeholders will consider all feedback provided to determine final recommendations.
My question is probably for a future meeting: what are the results of the public transportation survey? Will those issues be addressed prior to these traffic movement proposals?	Thank you, Claire! A summary of this survey will be provided in the final report. In addition, the study team and the stakeholders will consider all feedback provided to determine final recommendations.
I have to sign off so looking forward to reading your response.	Thank you, Claire!
Can you paint on the travel lanes? Like Route 29 south as you approach the Charlottesville bypass.	Paint on the travel lanes is one option to supplement vehicular movements in the bowtie configuration. Detailed signing and striping plans would be developed in future phases of design if this recommendation is submitted for SmartScale funding.
yes, I could see.	Thank you for confirming that you can see and hear the video, Diane.
How will public transportation be impacted? Are additional stops and transportation options being considered?	Public transportation is anticipated to be expanded by 2040. VDOT and local agencies are seeking funding to expand the existing park-and-ride lot on Wood Ridge Terrace. In addition, the study team recommends an additional stop be added near the Camp Creek Parkway/Market Street intersection.
How will outsiders know how to navigate the intersection w/o left turns?	If the bowtie were to be implemented, comprehensive wayfinding signage would be designed in accordance with Federal MUTCD requirements. These would include large diagrammatic signs and arrows to help vehicles navigate these intersections as shown in the video. Detailed signing/wayfinding plans would be developed in future phases of design should the Bowtie concept move forward.
I believe large trucks could handle the roundabouts fine, but the U-turns would be difficult for tractor trailers. What turning radii are provided for the U-turns?	Trucks are anticipated to be able to navigate the roundabouts proposed in this study. All designs considered a design-vehicle of a WB-67, a large tractor-trailer. Per VDOT guidance, the study team utilized the "AutoTurn" tool to ensure that design vehicles can complete all movements, including U-Turns, within the intersection.
What is a shared use path, [sorry, I missed the definition.....]	Thank you for your question, John. A shared use path is a facility that is meant solely for pedestrians and non-motorized vehicles such as bicycles and e-bicycles. Shared use paths are physically separated from motor vehicle traffic and designed for two-way travel. For more information on Shared Use Paths, you can visit this VDOT resource: https://www.virginiadot.org/programs/resources/BikePed/Shared_Use_Path_Brochure-acc11012021.pdf
There are 2 left turn lanes now going south, to go to Walmart. Will the one lane exit to a roundabout to cross Rt 15 handle the future load traffic?	Yes, the single southbound right-turn lane is anticipated to adequately accommodate the existing southbound left-turning volumes. By redirecting left-turns and removing the left-turn signal phasing from the existing signal, more green time can be provided to this movement. Forecast queues would be shorter than experienced in the left-turn lanes at a traditional traffic signal.
are all the roundabouts a single lane for passage around the loop?	The proposed roundabout designs are anticipated to maintain the existing number of lanes on US 15 or US 250. As a result, some of the roundabouts have two circulatory lanes and others have a single circulatory lane.
can you redirect tractor-trailer off 15?	A new roadway network to supplement Route 15 and Route 250 is recommended in the Zion Crossroads area. If this network is recommended and implemented, the study anticipates that some tractor-trailer vehicles may choose to use these minor roads rather than US 15 or US 150.
The bow tie plan looks like it would negatively affect our neighborhood near the back gate of spring creek.	The bowtie configuration is not anticipated to bring trucks into nearby neighborhoods. With the tremendous growth that the Zion Crossroads area is experiencing, the existing intersection configurations into the Spring Creek development is expected to have significant delays and queues. The bowtie configuration is expected to mitigate these operational challenges.
What happened to the first design that showed 2 roundabouts on 15?	Two alternative/independent plans are proposed for the segment of US 15 south of I-64. One plan calls for a roundabout to serve the large proposed development at Crossing Pointe Drive. This alternative would alleviate the safety issues experienced at the wide median opening on US 15. The 2nd alternative proposes an RCUT at the McDonalds driveway and a future roundabout to serve future development to the south on US 15.
I am all for roundabouts-they make the traffic move more smoothly, but it looks like the Uturn design that prevents left turns will bring big trucks into our neighborhood.	The bowtie configuration is not anticipated to bring trucks into nearby neighborhoods. All designs considered a design-vehicle of a WB-67, a large tractor-trailer. Per VDOT guidance, the study team utilized the "AutoTurn" tool to ensure that design vehicles can complete all movements, including U-Turns, within the intersection.
I am glad to see the emphasis on pedestrian options. How would we cross 15 safely on Spring Creek Parkway?	Pedestrians will be able to cross Route 15 with a two-stage crossing on the north leg of the intersection. Although some pedestrians may transverse Route 15 under one cycle length, the median refuge will also for other pedestrians to complete the crossing safely under two cycle lengths.
will this be a similar round-about that was present 45 years ago?	Not many remember the Roundabout at the intersection. However, current modern roundabout design has significantly improved their operational and safety performance.
Could you do a video showing pedestrian and bike paths? This is an opportunity to encourage non-automotive transportation. We're all too fat--the residential development planned should encourage this.	Thank you for the feedback. At this time, a video of pedestrian and bicycle paths has not been developed as a part of this study. But the importance of these non-automotive connections will be highlighted within the final report.
It always boils down to A/V ;-)	Thank you, Charlotte!
Did your study take into account that semitrucks require 8 to 10 seconds to get up to speed, so pulling into a roundabout at the Walmart juncture seems questionable.	Thank you for your comment. The operational models used in accordance with VDOT regulations do account for the heavy vehicles within the traffic stream. With respect to start-up times, the roundabout is expected to be an improvement over the existing stop-control, which requires exiting trucks to start from a complete stop 100 percent of the time.
Has Walmart and Lowes weighed in on this plan?	As this study is in the preliminary phase, Walmart and Lowes have not been directly contacted as a part of this study. However, the TJPDC and Louisa/Fluvanna Counties have conducted outreach within the local business community to inform them of the study. An recommendations that are moved forward beyond the preliminary stage will received further public input.

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
Isn't the speeding issue at Spring Creek PKY where the speed limit is 45 mph, north on Rt 15?	Yes, speeding was identified as a challenge by both the stakeholder group and by the public in the first round of community outreach. Research on roundabouts have shown that they can reduce the speeds of vehicles along the corridor.
What percentage of traffic comes from I-64? Will one-time users who just want fast food be confused given that they won't know road names? Seems like there will be a lot of confusing signage.	Traffic counts are provided as an appendix in the Existing Conditions report. If the bowtie were to be implemented, comprehensive wayfinding signage would be designed in accordance with Federal MUTCD requirements. These would include large diagrammatic signs and arrows to help vehicles navigate these intersections as shown in the video. Detailed signing/wayfinding plans would be developed in future phases of design should the Bowtie concept move forward.
Thanks for your work in addressing the current and future traffic challenges at ZC. The divergent diamond interchange already presents an unfamiliar challenge for those new to the area. The bowtie design at Rt 15 and Camp Creek Pkwy greatly adds to that complexity. Obviously something needs done, but the Bowtie, while manging traffic flow adds to that complexity. Imagine a someone getting off I-64 having to navigate 2 roundabouts to get a cup of coffee at Starbucks. Or imagine a fuel truck refueling the Sheetz having to navigate 2 roundabouts to return to I-64.	If the bowtie were to be implemented, comprehensive wayfinding signage would be designed in accordance with Federal MUTCD requirements. These would include large diagrammatic signs and arrows to help vehicles navigate these intersections as shown in the video. Detailed signing/wayfinding plans would be developed in future phases of design should the Bowtie concept move forward. These designs would be integrated with the DDI.
I see how the Bowtie works, but how will anyone who is not familiar figure out how to navigate where they are going? If you come off the interstate, you see where you want to go, but you have to go the opposite direction to get there without numerous signs?	If the bowtie were to be implemented, comprehensive wayfinding signage would be designed in accordance with Federal MUTCD requirements. These would include large diagrammatic signs and arrows to help vehicles navigate these intersections as shown in the video. Detailed signing/wayfinding plans would be developed in future phases of design should the Bowtie concept move forward. These designs would be integrated with the DDI.
Would there be opticom installed at the 15/Market St intersection for emergency services to stop all traffic at that light?	Specific technologies have not yet been determined at the study intersections.
Correction*Camp Creek Pkwy/15*	-
We saw the video!	Thank you, Ed!
The Board of Supervising is considering a Sportsplex/stadium. Based on your evaluations, is the Zion Crossing area where you are putting in the bow tie the best place to put this new Sportsplex/stadium from a safety and operational standpoint?	Thank you for the feedback regarding the stadium! Local agencies, including the Board of Supervisors, have been active stakeholders in this study.
Does the bowtie type intersection exist with the diverging diamond elsewhere in Virginia? It seems all very disorienting for drivers not familiar with the area.	Thank you for your question, Catherine. As Chris noted, this innovative treatment has not been implemented elsewhere in Virginia.
Does the bowtie type intersection exist with the diverging diamond elsewhere in Virginia? It seems all very disorienting for drivers not familiar with the area	Thank you for your question, Catherine. As Chris noted, this innovative treatment has not been implemented elsewhere in Virginia.
Does the bowtie type intersection exist with the diverging diamond elsewhere in Virginia? It seems all very disorienting for drivers not familiar with the area	Thank you for your question, Catherine. As Chris noted, this innovative treatment has not been implemented elsewhere in Virginia.
I'm using 2 screens which probably helps	Thanks for this input, Catherine!
How can one semi, let alone several, get into a roundabout? Most will be headed south to get to 64	Trucks are anticipated to be able to navigate the roundabouts proposed in this study. All designs considered a design-vehicle of a WB-67, a large tractor-trailer. Per VDOT guidance, the study team utilized the "AutoTurn" tool to ensure that design vehicles can complete all movements within the intersection.
Big concern will be ability to "get out" onto 250 from Spring Creek main entrance in the future with anticipated higher traffic. A roundabout will not solve this issue; only a traffic light will help.	Although a traffic signal at the Spring Creek entrance would produce operational benefits, a roundabout at this location is expected to produce comparable outcomes. In addition, the roundabout would provide greater safety benefits as compared to a traffic signal.
It seems that a bowtie intersection is much like the jughandle left-turns typical in New Jersey, which are very confusing for non-locals. How would the bowtie intersection address issues of confusion, eg. because of gps systems, for non-locals?	If the bowtie were to be implemented, comprehensive wayfinding signage would be designed in accordance with Federal MUTCD requirements. These would include large diagrammatic signs and arrows to help vehicles navigate these intersections as shown in the video. Detailed signing/wayfinding plans would be developed in future phases of design should the Bowtie concept move forward.
as of today I have never seen many activities regarding biking? along as you have wllmart center with many semies..NOT many floks will cycle. Even at Louisa county i dont see many or hardly any cycling.	Thank you for sharing this input, Nicolaas.
if you consider to arrange walking and or cycle facilities you should look at an layout that has been very succesfull in TX Houston is (The Woodlands)	Thank you for sharing this feedback, Nicolaas.
<p>What was the driver behind this analysis? Are Fluvana and Louisa Counties hoping to increase land uses/densities in the Zion Crossroads Area? This study is titled Zion Crossroads Small Area Study. Was this study therefore conducted in accordance with 24VAC30-155-60 and VDOT's Updated Administrative Guidelines for the Traffic Impact Analysis Regulations, December 2018 (the "Guidelines")?</p> <p>According to the Guidelines, a small area plan is defined as follows: "Small area plan" means a plan of development for multiple contiguous properties that guides land use, zoning, transportation, urban design, open space, and capital improvements at a high level of detail within an urban development area or for a transit-oriented development that is at least 1/2 square mile in size unless otherwise approved by VDOT due to proximity to existing moderate to high density developments. A small area plan shall include the following: (i) densities of at least four residential units per acre and at least a floor area ratio of 0.4 or some proportional combination thereof; (ii) mixed-use neighborhoods, including mixed housing types and integration Administrative Guidelines December 2018 6 of residential, office, and retail development; (iii) reduction of front and side yard building setbacks; and (iv) pedestrian-friendly road design and connectivity of road and pedestrian networks."</p> <p>According to the Guidelines, a single traffic impact analysis prepared for a small area plan can be used as the traffic impact statement (study) required by the Regulations for a proposed rezoning within the small area plan, if the rezoning is in substantial conformance with the same said small area plan. The traffic impact analysis study for the small area plan may reduce the number of individual traffic impact analyses required for developments that are proposed within the small area plan. A VDOT TRAFFIC IMPACT STATEMENT prepared in accordance with 24VAC30-155-60 is a submission element of a small area plan. Therefore is the intent of this study to facilitate development without the need for additional traffic studies?</p>	Thank you for the question, Robin! This study is not a Traffic Impact Analysis nor is it anticipated to replace any requirements for developers in the future. This study is intended to help local agencies plan for future growth and inform the development of their long-range planning efforts.
The "Technical Memorandum" prepared by Kittelson evalutes existing (baseline 2019 traffic conditions) and year 2040 "no-build" conditions including approved but as yet uncompleted pipeline developments and then draws conclusions and makes certain recommendations for the study corridor. It is interesting that 2040 "build" conditions were not presented in order to provide a comparative analysis to the "no-build" conditions given the mitigations proposed.	Given the time constraints of the public meeting, the details of the "build" conditions were not included. All of the analysis results have been shared with our stakeholder group and will be provided in the final report.
Traffic counts were conducted during the weekday AM, PM and Saturday mid-day peak hours in 2019. Copies of the counts are listed as being provided in Appendix A but none of the Appendix material was available on the websites.	An updated report with appendices has been uploaded to the project website.
Synchro version 10 was used in the analysis of existing and future no-build conditions. HCM 2010 was used in the reporting of unsignalized LOS. It should be noted that the unsignalized methodology is intended to provide a comparative analysis of traffic conditions. There have typically been some quirks with the 2010 HCM methodology and hence why in the Northern Va district the 2000 methodology is preferred. Additionally, the HCM unsignalized delays associated with side streets as reported by the software is typically higher than most drivers experience in real time. Therefore, caution should be taken in assessing the delay for side street drivers.	Per local VDOT guidance, HCM 2010 for unsignalized intersections was utilized and approved by VDOT project managers and staff.
Further, according to VDOT's TOSAM (version 2.0), SIDRA should be used in the evaluation of roundabouts. These analyses should be provided in the review of mitigation measures proposed by the consultant.	SIDRA was used to analyze the operational performance of roundabouts. Outputs from SIDRA will be provided in the final report.

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
<p>Under existing conditions, with the exception of the Route 15/Spring Creek/Camp Creek intersection, all of the signalized intersections operate at LOS "C" or better during the weekday AM peak hour. During the weekday PM peak hour, with the exception of 15/SC/CC and Market Street/Camp Creek which operate at LOS "D", all of the other signalized intersections operate at LOS "C". During the Saturday mid-day peak all of the signalized study intersections operate at LOS "C" with the exception of 15/SC/CCC which operates at LOS "E". LOS "C" is the minimal acceptable level of service standard in the non-urban areas of the Commonwealth. Tables comparing existing, no-build and build levels of service should be provided for elected official and community review.</p>	<p>To-date, stakeholders, including elected officials, have been provided the operational performance of all existing, no-build, and build levels of service. The final report will provide this information as well.</p>
<p>Total Future 2040 conditions are based on a composite of a regional annual growth rate per year compounded over the 21-year study period and pipeline developments such as O'Reilly's, 7-11 and Zion Town Center, etc. According to the report, VDOT staff identified a 1.0% regional growth rate. Over the 21-year study period, the resulting overall growth in Route 15 traffic between 2019 and 2040 is estimated at 23%. A review of VDOT traffic data shows that between 2002 and 2011, traffic in Zion crossroads from Route 250 to I-64 along Route 15 grew at approximately 3.15% per year. Between 2018 and 2019 on the segment of Route 15 between Route 250 and I-64, traffic in Zion Crossroads has grown 25% in one year; from 16,000 vpd to 20,000 vpd. For the segment between I-64 and E. Green Springs Road, VDOT count data reported a 7,900 vpd to 23,000 vpd increase in volumes or an approximate 90% increase in traffic over one year. Most of the VDOT data for daily traffic on Route 15 is a result of the application of factored short term count data with and/or without a growth element. It is suggested that 24-hour mechanical counts be conducted along the relevant sections of Route 15 in order to reaffirm the 1% growth in regional traffic, as well as verify the percentage of heavy vehicles in the subject corridor. Recent research has shown that that capacity of roundabouts is more influenced by heavy vehicles than previously expected. The VDOT historic traffic count data has shown the percentage of heavy vehicles along Route 15 was 13% in 2009 and 10% in 2019. Obviously this percentage could have a serious impact on operations at the proposed roundabouts.</p>	<p>Thank you for the input. While published annually, the publically available AADT data referenced is not based on yearly counts and is often developed based on assumed growth factors applied to older counts. The one percent annual growth rate was determined through efforts with VDOT planning staff, taking into account the regional growth US 15 continues to experience and broader population/employment projections. It is not within the scope of this study, nor is it standard practice, to reconfirm the growth rates assumed prior to publishing the final report. Any subsequent study beyond this planning level study will have the ability to reevaluate the growth rates assumed. Heavy vehicle percentages were captured in the 2019 counts and were factored into the capacity analysis of the roundabouts.</p>
<p>The study states that trips from the approved and/or in-process area developments were estimated and assigned to the road network as reflected in Figures 18, 21 and 24. A copy of the trip generation table summarizing the trips generated by these other developments and based on ITE, Trip Generation Manual rates and/or equations, would be helpful. Further, any reductions due to internal capture and/or pass-by trip reductions should also be identified by the consultant. It may also be beneficial to look at the development area holistically instead of individual retail uses. Retail to retail synergy is possible and should be considered in this auto-intensive area.</p>	<p>The study team did not produce any original trip estimations for the developments considered in the future analyses. Development-generated trips and their assignment to the transportation network were taken directly from VDOT-approved Traffic Impact Analyses.</p>
<p>The consultant also states that the 95th percentile queues were evaluated at the study intersections. But no details on the queuing analyses and potential blocking reports were provided. Queues that extend up and/or downstream between roundabouts can impeded operations of neighboring roundabouts. Further, those areas where existing queues spill out of the provided bays should be identified by the consultant together with the increase in queues associated with regional growth and pipeline traffic</p>	<p>The study team utilized Synchro and Sidra to evaluate queues for existing, future and the various alternative intersection configuration for each intersection. These results are available for the existing and future "no-build" conditions as appendices in the Existing Conditions Report. Those for the recommended improvements will be provided in the Final Report.</p> <p>Maintaining spacing between queues and adjacent intersections was considered as part of the evaluation process for each recommendation. No queues are anticipated to spill back beyond provided turn storage contemplated in the recommended improvements, nor would queues be expected to spill back between roundabouts.</p>
<p>It would be helpful to see the crash analysis for individual study intersections. Additional detail should also be provided with regard to if certain locations exceed expected crash rates and the identification of any road geometry that may have contributed to such crashes.</p>	<p>Crash analyses were completed to develop the Existing Conditions Report. During this evaluation, the study team identified which study intersections had the highest frequency of crashes. In addition, the study team evaluated trends of severity, type, weather, lighting and various other contributing factors. The study team also utilized VDOT's resources to locate any intersections with Potential Safety Improvements (PSI), or those with crash histories higher than other intersections with similar characteristics.</p>
<p>Limited access lines associated with the I-64/Route 15 interchanges should be identified within the study area. Certain recommendations such as pedestrians crossing dual right turn lanes under the phase permitting such dual right vehicle turns should not be included. Further, any corridor improvements that impact the interstate ramps could result in the need for an interchange modification request (IMR) which requires FHWA review.</p>	<p>No new access is proposed between the DDI interchange an existing access point to the north or south. Showing these lines is not germane to this study, but should the construction of the proposed shared use path trigger the need for an Interchange Modification Report (IMR), these would be included. There are only two locations where future pedestrian crossings would traverse dual right-turn lanes: the WB off-ramp of I-64 to US 15 NB, and the NB right-turn from US 15 to Camp Creek Parkway. The dual right-turn lanes on the WB I-64 off-ramp are signalized and prohibit right-turn-on-red movements from both locations. As such, implementation of a signalized pedestrian crossing across these two lanes does not introduce a conflict, and the short crossing distance would require no changes to current signal timing parameters (the signalized pedestrian phase can be contained entirely within the current NB/SB phase splits). At US 15/Camp Creek, signalized pedestrian crossings would be push-button activated. While specific details regarding the design of this signalized pedestrian crossing are beyond the scope of this planning study, it is likely a leading pedestrian interval (LPI) would be designed to give pedestrians crossing the Camp Creek leg (east side) a "head start" to help minimize conflicts and improve pedestrian visibility to drivers. Preliminary testing of an LPI in Synchro during peak hours suggests an LPI would not have a substantial impact to the reported operations of the intersection in the Bowtie configuration. Additionally, the large pedestrian refuge island made possible by the Bowtie design (and it's removal of dual WB left-turn lanes) would allow pedestrians to make a two-stage crossing of the Camp Creek leg of the intersection, and helps reduce overall pedestrian exposure.</p>
<p>Elected official and community input should be sought with regard to potential mitigation. Certain locations many not in fact need mitigation at all. And the impact on operations of recommended mitigation MUST be provided</p>	<p>The stakeholder group for this study includes local agencies and elected officials. In addition, the study team is using this public outreach meeting and online surveys to collect feedback on these recommendations before the final set.</p>
<p>In this week's webinar it was stated that constructing and maintaining a roundabout is CHEAPER than a signal. This sounds like bullshit . Please justify the statement.</p>	<p>Roundabouts have been shown to have lower long-term costs for operations and maintenance as the technology to serve a traffic signal is not required. Over a 25-year lifespan, traffic signals require frequent retiming to ensure they can accommodate everchanging traffic patters. This not only requires funds for data collection, but also the costs of evaluating the signal timing and the costs to implement the new timing in the field. There are also on-going electrical costs to power the signal 24/7 over a long period of time. After construction, roundabouts require little additional maintainance other than landscaping within the central island. VDOT has a longstanding analysis spreadsheet, which is based on decades of real-world costs to operate each type of intersection, to illustrate the long-term cost differential between roundabouts and traffic signals.</p>
<p>In this week's webinar it was stated that some signal timing needs to be done. Why can't that be done NOW since it's cheap, easy, and fast?</p>	<p>Several of the recommendations produced in this study, including signal timing, may be implemented in the near-term.</p>
<p>This week's webinar referred to a mysterious "stakeholder group", a mysterious "study team", a mysterious "first public meeting", and a mysterious "citizen survey", etc. (1a) Why were so few local residents informed and involved in these things - - before it was all (apparently) a done deal? (1b) Where & how were the "citizen survey" and "first public meeting" advertised? (2) Exactly who is in the "stakeholder group"? (3) Exactly who constitutes the "study team"? (4) Where was the "first public meeting"?</p>	<p>The first public meeting was formatted as virtual workshop page and accompanying survey. This "meeting" was open during Winter 2020 and shared via the same outlets as this second public meeting. The initial survey was shared through various social media and new publications similar to the most recent public meeting. The survey received over 200 responses.</p> <p>The stakeholder group consists of elected officials, planning staff and engineers from VDOT, the Thomas Jefferson Planning District Commission, Louisa County and Fluvanna County.</p> <p>The study team refers to Kittelson & Associates, who are conducting the study on behalf of VDOT.</p>

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
<p>We used to have a traffic circle (roundabout) at US15/US250. It worked fine. But it was torn up by VDOT and replaced with traffic lights. (Back then roundabouts weren't so trendy in highway designer circles.) Nevertheless, the placement and sequencing of the existing signals at US15/US250 are excellent, and the existing lanes work very well. Traffic moves rapidly and safely. (Signal timing study might be beneficial.) We do NOT need a roundabout at US250/US15. Wouldn't VDOT feels stupid ripping it all up to re-install a roundabout?</p>	<p>Not many remember the original circular intersection at US 15/US 250. However, current modern roundabout design has significantly improved their operational and safety performance, making them an attractive intersection control form to address operational and safety concerns. We did include updating the signal timing plan with the future No-build scenario, but it still shows a poor level of service for the eastbound Left turn movement in both the evening and Saturday peak periods. The intersection is currently listed in the top 100 Potential for Safety Improvements in the district with 29 crashes in the last 5 years, 10 of which resulted in injuries.</p> <p>The conversion of the intersection to a modern roundabout would eliminate most of these crashes and all of the injury crashes that occur here and would provide an acceptable Level of Service (LOS 'C' or Better) for all movements during all of the time periods.</p> <p>Thank you for your question and comments on the study.</p>
<p>Your next virtual public meeting needs to be held with Zoom and not gotowebinar. If you're wondering why so many folks who were registered to attend but didn't log in to see the webinar, it's because they were expecting it to be in the Zoom format. Many folks didn't have the appropriate software or app to view your meeting!</p>	<p>Thank for the feedback, Lawrence! Unfortunately, VDOT does not currently have a license to Zoom, which would be required to host a meeting of that size. We'll share your feedback with VDOT staff for consideration. For reference, anyone with an internet connection or phone line should have been able to participate in the meeting on GoToWebinar. The meeting would open in a web browser similar to the way Zoom opens.</p>
<p>I think the roadway like it is now is a lot better than it was before the road was fixed.</p> <p>Use the money to put in an exit/on ramp on Poindexter Road for traffic going from Rt. 15 south to Rt. 250 east coming off mile marker 136 at Zion Crossroads. This would take a lot of traffic off Rt 15 south headed to Route 250 east and eliminate a bottleneck in that area.</p>	<p>Thank you for the input. Placing a new interchange approximately one mile east of the existing DDI would help pull local traffic away from US 15; however, it does not address the anticipated growth within the burgeoning commercial centers along Spring Creek Parkway/Camp Creek Parkways. With this traffic alone, US 15 is expected to experience tremendous growth by 2040. As a result, the traffic conditions are expected to significantly deteriorate. The goal of this study is make improvements before extensive delays and queues are experienced along these corridors.</p>
<p>Bowtie- What is it?</p>	<p>Fred - Please see the bowtie description provided in this VDOT Resource: https://www.virginiadot.org/info/innovative_intersections_and_interchanges/Bowtie.asp</p>
<p>The proposed roundabout on Rt. 15 where the Walmart distribution center has trucks entering onto Rt. 15 (Liberty Trail – where the flashing light is) troubles me. Most of the trucks are very large and they will need to come to a complete stop before entering the roundabout. It will take them so long to get up to speed and finish their maneuver through the roundabout that traffic will inevitably slow down and back up in the two other roundabout entrances (northbound & southbound) from Rt. 15. This will disrupt the flow of traffic. Nothing should be done at that intersection. It functions well as it is.</p>	<p>Thank you for your input. The primary intent of this study is to evaluate potential improvements to alleviate future year 2040 traffic projections. While the existing stop-controlled intersection may be operating acceptably today, conditions are anticipated to deteriorate between now and 2040 due to increased traffic on US 15 from both regional growth and new developments within Zion Crossroads. This increase in traffic will make it more difficult for trucks to find a gap in traffic on US 15. These difficulties also mean more trucks are fully stopped waiting for a gap. When trucks are unable to find sufficient gaps in traffic to pull out of the minor street, they start to accept smaller gaps, which leads to a higher propensity of high-severity, angle crashes. The roundabout is not only anticipated to reduce the delay experienced at this intersection, but also substantially reduce the risk for crashes in the future.</p>
<p>2) Propose constructing an overpass from Camp Creek Parkway and going over Route 15 into Spring Creek Parkway. Overpass construction costs have diminished substantially with new methods and construction materials. This proposal would be better for the flow of traffic rather than the proposal by Kittelson and Associates.</p>	<p>A grade-separated overpass was considered at the Route 15/Spring Creek Parkway/Camp Creek Parkway intersection. However, the study team identified several challenges relating to this intersection configuration. The first of which is funding. Interchange projects (such as the Rio Road interchange recently constructed in Charlottesville) was an approximately \$70 million dollar project - this is several orders of magnitude greater than any alternatives proposed in this study. The stakeholder group has expressed similar concerns about the viability of funding projects of that magnitude in this area. Another challenge is the physical spacing from adjacent intersections and local roadway context. The distance between US 15 and Market Street would provide insufficient weaving distance between intersections for vehicles coming over the overpass and those coming from US 15. In fact, the physical distance between the DDI and US 15/Spring Creek/Camp Creek intersection does not meet spacing minimums dictated by federal or state standards for interchange spacing, and even if they did, the residual impacts to surrounding land/businesses would be substantial.</p>
<p>What signs and/or lights will be displayed to assist commuters into this bowtie pattern (each way)? These need to be easily understandable and viewable.</p>	<p>If the bowtie were to be implemented, comprehensive wayfinding signage would be designed in accordance with Federal MUTCD requirements. These would include large diagrammatic signs and arrows to help vehicles navigate these intersections as shown in the video. Detailed signing/wayfinding plans would be developed in future phases of design should the Bowtie concept move forward.</p>
<p>What land will be taken from which specific stores and offices parking lots to enable this new pattern?</p>	<p>No commercial or business parking lots are anticipated to be impacted with the implementation of the bowtie. A small impact to the sidewalk near Lowe's is the only parcel impact expected on the east side. The park-and-ride lot on Wood Ridge Terrace is already anticipated to be redeveloped so no significant parcels are expected to be impacted.</p>
<p>How will pedestrian and handicapped movements flow to make it to the store or office entries safely? Louisa County alone has 28% over 60 and 12% under age 60 are handicapped, so this needs to be taken into consideration</p>	<p>Per VDOT guidance, any implemented pedestrian facilities are anticipated to be ADA accessible.</p>
<p>There is a holding reservoir or drainage space located at the end of Camp Creek Parkway between Walmart & Lowes behind a short chain link fence. Drainage from large rainfalls & from rainwater droppings from buildings and parking areas is safely held there. Wildlife including turtles, ducks, geese, aquatic and other small animals reside in this water site. Will this area be required for the new bowtie construction? If so, studies to plan for water storage & wildlife are probably required.</p>	<p>The holding reservoir is not anticipated to be impacted as a result of the bowtie. This improvement is anticipated to reduce the amount of impermeable pavement on several of the approaches, as the dual left-turn lanes will be removed on all approaches to the main intersection.</p>
<p>In one of your documents you show an image of hybrid intersection as an alternative to the bow tie roundabouts at Hwy15 and Camp Creek Parkway. I could not find a good image of that. Please could you share that at the virtual meeting tomorrow (23 Feb 2022)</p> <p>Surely an intersection like the Rt29/Rio Road intersection would be a better solution as Hwy15 traffic would have no traffic light and the Camp Creek/Spring Creek traffic would pass under Hwy15. Why was this not considered?</p> <p>Respectfully, there has to be a better solution than the bow tie roundabout!</p>	<p>Images of recommended improvements have been uploaded to the project website.</p> <p>A grade-separated overpass was considered at the Route 15/Spring Creek Parkway/Camp Creek Parkway intersection. However, the study team identified several challenges relating to this intersection configuration. The first of which is funding. Interchange projects (such as the Rio Road interchange recently constructed in Charlottesville) was an approximately \$70 million dollar project - this is several orders of magnitude greater than any alternatives proposed in this study. The stakeholder group has expressed similar concerns about the viability of funding projects of that magnitude in this area. Another challenge is the physical spacing from adjacent intersections and local roadway context. The distance between US 15 and Market Street would provide insufficient weaving distance between intersections for vehicles coming over the overpass and those coming from US 15. In fact, the physical distance between the DDI and US 15/Spring Creek/Camp Creek intersection does not meet spacing minimums dictated by federal or state standards for interchange spacing, and even if they did, the residual impacts to surrounding land/businesses would be substantial.</p>
<p>My question is how would a roundabout at Spring Creek / Stonegate entrance on RT15 help?</p> <p>Truck traffic headed south will back up as they navigate the roundabout. As truck traffic backs up the line will run down the hill and could possibly end in the swampy bottom. That section of Rt 15 gets black ice in the winter on a frequent basis. Plus as truck traffic backs up those drivers are holding manual transmission tractors on an incline and starting in first gear to make the grade - more traffic slow downs.</p> <p>Would a traffic light work just as well?</p>	<p>By 2040, the entrance into the Spring Creek development is anticipated to have diminishing operations. This is expected to produce significant delays and long queues, especially with the anticipated increase of northbound and southbound vehicles on US 15. A roundabout at this location is expected to have operational improvements and to provide greater safety benefits.</p>

Zion Crossroads Public Meeting
Questions and Answers

Question Asked	Response
<p>While the Zion Crossroads/Spring Creek area is experiencing expected growth, the need for extensive highway and road development seems very excessive and unnecessary and would lead to more traffic back up and delays. The proposal seems like a solution to a problem that does not exist and will not seemingly exist in the perceived future.</p>	<p>The Zion Crossroads area is expected to experience tremendous growth by 2040. As a result, the traffic conditions are expected to significantly deteriorate. The goal of this study is recommend improvements before extensive delays and queues are experienced along these corridors. As shown the future "no-build" operations, many of the intersections are anticipated to experience these poor operations. The recommendations are not intended to be implemented in the immediate near term. As discussed in the presentation, implementing this types of improvements take several years, so the stakeholder group is beginning planning now so they can be in place by the time they are ultimately funded and constructed.</p>
<p>for people in Central Virginia. Drivers rarely use a turn signal, and even less so when exiting a roundabout, leaving the driver who wants to enter the roundabout in a guessing mode whether the driver in the roundabout is exiting or continuing through the roundabout. This leads to indecision on the driver wanting to enter the roundabout, causing backups at the roundabout, and increases the potential for accidents. The backups at all of these proposed bowtie intersections and roundabouts would back up traffic and cause a domino effect for all other traffic that would be affected by these bowtie intersections and roundabouts. While the existing traffic lights and intersection at Route 15 and Camp Creek Parkway and Spring Creek Parkway could use some tweaking, I think the bowtie intersections would create more traffic and driving and backup issues than resolve any existing or future problems. I question the real need for a bowtie intersection on Route 15 at Camp Creek Parkway and Spring Creek Parkway. There are already double left hand turn lanes on Route 15 N onto Spring Creek Parkway, and coming in the other direction on Route 15 S, there are double left hand turn lanes onto Camp Creek Parkway. Even during peak driving hours, these double left hand turn lanes are more than sufficient to handle the traffic. Most days when I am turning left onto Camp Creek Parkway to go to Walmart, I might be one of two or three vehicles in the entirety of both left hand turn lanes. One suggestion might be to add a second right turn lane from Route 15 N onto Camp Creek Parkway because traffic will get a little heavy with drivers want to turn right to get into Sheetz or Walmart, but not an urgent or pressing need at this point. Travelers along I64 who might exit just to get some gas and fast food or cup of coffee who are not familiar with the traffic layout would be met with a complicated and confusing set of diamond crossovers and bowtie intersections causing greater potential for backups and potential accidents.</p> <p>A suggestion I might make on Route 15 S at Spring Creek Parkway is make the far right lane into a thru lane and right turn lane. Currently, the far right lane is just a right turn only lane. If the far right lane were both a thru lane and right turn lane, drivers heading south on Route 15 who wish to enter I64 West would have an additional lane to use, instead of having to cut over a lane to the right just after going through the light at the intersection to get into the I64 West entry lane and ramp. I have witnessed several near accidents because it is common for the tractor trailer trucks leaving the Walmart Distribution Center to use the right turn lane as a thru lane and this creates problems for drivers who want to get over right after going through the intersection</p>	<p>Thank you for the feedback! The study team reviewed a wide range of alternatives at each study intersection, including signal timing improvement, addition of turn lanes, extensions of existing turn lanes, and all innovative intersections described in VDOT's Innovative Intersection resource (found here: https://www.virginiadot.org/innovativeintersections/).</p> <p>At this US 15/Spring Creek Parkway/Camp Creek Parkway, the addition of turn lanes are not anticipated to provide significant operational improvements with the tremendous growth expected at this intersection.</p>
<p>Another suggestion on Route 15 N would be to extend the right lane past the new development where Dollar Tree is now located to give vehicles the additional lane to enter and exit the businesses along Route 15 N including the strip businesses just south of the Dollar Tree, before narrowing to a single lane. As is, Route 15 N narrows too soon causing issues for drivers wanting to enter and exit the business along with drivers needing to get over left as the lane narrows to single lane traffic.</p>	<p>Thank you for the feedback! The study team reviewed a wide range of alternatives at each study intersection, including signal timing improvement, addition of turn lanes, extensions of existing turn lanes, and all innovative intersections described in VDOT's Innovative Intersection resource (found here: https://www.virginiadot.org/innovativeintersections/).</p> <p>At this US 15/Spring Creek Parkway/Camp Creek Parkway, the addition of turn lanes are not anticipated to provide significant operational improvements with the tremendous growth expected at this intersection.</p>
<p>I live in the Spring Creek community and I have never had an issue turning left from Route 15 N into Spring Creek. At most I might have one vehicle in front of me, and I just wait until there is a break in traffic on Route 15 S before turning left into Spring Creek. Even during peak traffic times, turning left has never been an issue. The idea that I would have to turn right onto Stonegate Drive and enter a roundabout to come back toward Spring Creek to enter the community is ridiculous. The only issue I see is in the evenings, the intersection is poorly lit, and it might help to put some lighting up for the intersection</p>	<p>For reference, under the proposed improvement, you would not be require to enter Stonegate Drive to access Spring Creek Parkway. You would be able to make a direct left-turn via the roundabout on US 15 onto Spring Creek Parkway. While it is noted existing delays are not untenable, the Zion Crossroads area is expected to experience tremendous growth by 2040. As a result, the traffic conditions are expected to significantly deteriorate. The goal of this study is make improvements before extensive delays and queues are experienced along these corridors.</p>
<p>Another concern living in the Spring Creek community is that Bear Island Parkway will see a significant increase in traffic in this residential neighborhood as residents will undoubtedly use Bear Island Parkway as a primary thoroughfare funning parallel to Route 15 to avoid the bowtie intersections along Route 15. The Spring Creek community and in particular Bear Island Parkway were not designed for Route 15 style traffic, especially through a neighborhood community. In other words, if I were going to Walmart, instead of entering Route 15 from the main Spring Creek entrance/exit as I would normally do, I would continue on Bear Island Parkway to the back exit, and enter Spring Creek Drive in order to go straight through the bowtie intersections on towards Walmart.</p>	<p>The bowtie configuration is not anticipated to bring trucks into nearby neighborhoods. With the tremendous growth that the Zion Crossroads area is experiecing, the existing intersection configurations into the Spring Creek development is expected to have significant delays and queues. The bowtie configuration is expected to mitigate these operational challenges.</p>
<p>Additionally, when the double left turn lanes from Camp Creek Parkway leading away from Walmart was reduced to a single left turn lane (not sure who came up with this idea?), this created more of a traffic backup on Camp Creek Parkway, and this back up would become even more pronounce and more difficult to navigate if a bowtie intersection is created at Camp Creek Parkway near Sheetz as drivers try to exit Sheetz and Walmart. Drivers exiting Walmart would more than likely exit from the rear of the parking lot to avoid the backups and the roundabout, and more likely than not use the Lowes parking lot as an additional drive through route toward Route 15. This would increase traffic and cause safety concerns in the private Lowes parking lot.</p>	<p>Converting the existing signal at Spring Creek Parkway/Market Street to a roundabout is anticipated to improve both delays and queuing at the intersection. The roundabout is able to more efficiently accommodate the projected volumes coming from all four legs of the intersection. It is not anticipated vehicles will divert to use the Lowes parking lot, as this would lead to increased travel times relative to traversing the roundabout.</p>
<p>Lastly, the proposed shared use paths are mostly unnecessary. I have never seen anyone walking along Route 15 carrying groceries from Walmart or building materials from Lowes, and these shared use paths seem mostly needless.</p>	<p>The presence of pedestrians and bicyclists are anticipated to increase with the development of multi-family, mixed use properties along the corridor. Fluvanna and Louisa Counties also have bike and pedestrian pedestrians identified along these roadways in their comprehensive plans. And while it is noted pedestrian and bicycle activity is limited today, this may be in part due to limited non-motorized infrastructure. Our initial study survey illustrated there was great interest in walking and biking in the area; however, many users did not feel safe doing so today.</p>