



**TRANSPORTATION SAFETY & ADVISORY COMMISSION**

**CITY OF HARRISONBURG, VIRGINIA**

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**TO:** Transportation Safety & Advisory Commission Members, Council members, City Manager Kurt Hodgen, Assistant City Manager Anne Lewis

**FROM:** Brad Reed, Transportation Planner

**DATE:** Thursday, July 2, 2015

**RE:** Transportation Safety & Advisory Commission Summary from June 10, 2015 Meeting

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The Transportation Safety & Advisory Commission met on Wednesday, June 10, 2015 at 8:30 AM in Room 205 of the City Municipal Building, 345 S. Main St.

Members and Advisory Members present included: Len Van Wyk (SW Citizen Member), Calvin Ferrell (SE citizen member), Russell Presnell (NW citizen member), Joshua Humphries (At-Large Citizen Member), Brad Reed (Public Works member designee), MPO Greg Deeds (Police member Designee), Sgt. Pete Ritchie (Police), Tom Hartman (Public Works), Thanh Dang (Public Works), Ian Bennett (Fire), Doug Stader (DMV)

Guests Present: None

*Commission meetings are open to the public and citizens are provided the opportunity to voice their views/concerns about any item before the Commission. It is the policy of the Commission to move relevant agenda items to the beginning of the meeting when citizens are in attendance to avoid detaining them for the entire meeting.*

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*Welcome*

*Old Business*

**1. Emerald Dr parking restrictions and guidelines for residential sight distance issues**

Mr. Reed explained that city staff and this Commission have faced challenges in the past with handling sight distance issues on local residential streets, such as Emerald Dr, where traffic volumes are low and on-street parking is highly valued. On-street parking is important to residents in such areas and decisions to remove parking to address sight distance complaints

have sometimes been met with push back from others in the vicinity. This was the case with Emerald Dr, where parking has been removed in two instances to meet VDOT standard sight distance and subsequent complaints have been received from residents living across the street from the parking change. Given these issues, Public Works staff is proposing administrative guidelines for handling such issues that would apply only to 25 mph local residential streets where the sight distance complaint is for an entrance serving multi-family residences, such as apartments or townhomes. The guidelines would also apply to public and private residential street or alley intersections. Under the proposed policy, Public Works would first review whether the issue can be resolved by trimming landscaping that may be blocking sight. If that is not possible, then staff would review the impact of on-street parking on sight distance for the entrance. If parking is identified as being the issue, then staff would give consideration to restricting parking for a 50-foot distance on either side of the entrance in question. If nearby homes do not have off-street parking then consideration will be given to whether the restriction should be reduced or not be pursued at all. The 50-foot restriction would provide VDOT standard stopping sight distance for vehicles on the cross street so that adequate space is provided to stop if a vehicle pulls into the travel way from an entrance. Parking restrictions will not be considered for single family home driveways unless there is a documented corridor-wide safety issue. City staff will handle requests under these guidelines administratively rather than bringing sight distance complaints for such circumstances to the Commission. Sight distance requests for non-residential streets and entrances may still be brought to the Commission for its input depending on the circumstances of the problem, as per usual.

For the concerns presented for Emerald Dr in the last meeting, Public Works staff suggests that the new guidelines be retroactively applied to balance the stated needs of residents on each side the street. This would result in a scaling back of the existing parking restrictions on the west side of each of the entrances for which past complaints have been received. 60 feet of the 110-foot restriction applied in 2012 would be restored and 100 feet of the 150-foot restriction applied in May would be restored.

Commission members commented that the proposed guidelines are less restricting with regard to parking and are more appropriate for the residential context as compared to the parking restrictions needed to meet VDOT standard intersection sight distance. The Commission voted unanimously to recommend that staff proceed with implementing the proposed guidelines and the changes on Emerald Dr.

### *New Business*

## **2. Consideration of lane reconfiguration on Evelyn Byrd Ave from Reservoir St to University Blvd**

*(Editor's Note: Following this meeting, Public Works announced that the repaving of Evelyn Byrd Ave between Reservoir St to University Blvd will be postponed to next year, 2016. This will allow additional time needed to investigate and address issues discussed below, and to communicate with adjacent property owners. A report will be presented to the City Manager and City Council.)*

Mr. Reed presented a Public Works proposal to reconfigure Evelyn Byrd Ave from Reservoir St to University Blvd. If accepted by the City Manager and City Council, the street would be changed from its current 4-lane configuration to a 3-lane configuration with a center turn lane and bike lanes following regularly scheduled repaving. Details of the reasoning behind this proposal and research into its potential benefits were shared with the Commission through a memo sent prior

to the meeting and presentation slides shared during the meeting (*these documents are attached to this summary*). Prior to presenting this to the City Manager and City Council, Public Works is seeking input from the Commission as to the perceived benefits and issues related to the proposal.

Sgt. Ritchie commented that the real problem on this section of Evelyn Byrd Ave is at the opposing Forbes Crossings shopping center entrances closest Reservoir St. These entrances are where half of the reported crashes have occurred on the corridor in the past 2 years and something should be done to resolve this issue along with any lane reconfiguration. This issue is related to long vehicle queues in the left approach lane to Reservoir St, which block sight for those entering and exiting the shopping center entrance. Mr. Reed and Mr. Hartman replied that the proposed reconfiguration would not be expected to eliminate this problem, but might help because the number of conflicting lanes that turning vehicles (coming out of the shopping centers entrances) would have to cross would be reduced. Sgt. Ritchie said he can't say that the proposed changes would reduce these particular crashes.

MPO Deeds added that marking the inbound and outbound lanes at the entrance on the north side might help. A similar recommendation was made to Sheetz on Reservoir St and markings were recently added. MPO Deeds went on to say that the problem at the shopping center entrances on Evelyn Byrd Ave would be eliminated if the entrances were made right-in, right-out only. Deputy Chief Bennett asked if a left turn restriction into the entrance on the north side could be signed on Evelyn Byrd Ave. Mr. Hartman responded, saying that such a restriction would be hard to sign since vehicles have just turned off of Reservoir St. MPO Deeds commented that this would still leave the problem of vehicles turning out of both entrances.

Also discussed was the potential for eastbound through traffic to be blocked if vehicles stop to turn left into the first shopping center entrance off of Reservoir St. Vehicles have difficulty turning there during peak traffic hours because queues approaching Reservoir St extend back across the entrance and drivers sometimes block the entrance. With one eastbound lane rather than two and no center turn lane at this location, vehicles would not have the ability to pass those waiting to turn left on Evelyn Byrd Ave. MPO Deeds asked what would be done if this becomes an issue. Ms. Dang responded, saying that staff would then consider ways to address it if needed. The group discussed the possibility of working with the property owners to prevent left turns off Evelyn Byrd Avenue. One option for this is to install delineators on the double yellow line similar to what was done at the Sheetz on Vine Street to prevent left turns.

Mr. Van Wyk said that the shopping center entrances could be treated as a separate issue and is tangential to the proposal. The proposal to reconfigure to 3-lanes may still help the situation and reduce potential crashes on the rest of the street up to University Blvd. He went on to say that, if the group does not feel the reconfiguration would help resolve the shopping center entrance issue, then maybe a solution there could be part of the proposal. Ms. Dang replied that the timing is difficult for this because repaving is about to occur on the street and that doesn't give enough time to work with the affected shopping center property owners on a possible solution (*see Editorial comment above*). Mr. Reed asked, with the shopping center issue aside, does everyone believe the proposed lane configuration would be a positive change overall? Everyone in attendance agreed that the change would be beneficial. Mr. Humphries said that he is in favor of the proposal provided that it doesn't increase travel time and can help reduce crashes.

Deputy Chief Bennett said that the proposed two-lane approach (through-only and right turn-only) configuration for westbound Evelyn Byrd Ave at Burgess Rd may cause drivers to think that both lanes continue straight as they do with the current 4-lane configuration. A similar issue was recently experienced when the eastbound and westbound approaches to University Blvd on Evelyn Byrd Ave were reconfigured, with drivers in the right lane not recognizing that it changes into a right turn-only lane. Mr. Bennett suggested that delineators be used for the right turn-only lane at Burgess Rd as was done at University Blvd to eliminate potential conflicts related to this issue. It was mentioned that another type of lane use confusion may arise with beginning the westbound right turn lane onto Burgess Rd in the middle of a curve in the roadway. An example of this is seen on University Blvd approaching Carrier Dr where a right turn-only lane begins in a curve. The Commission suggested that delineators for the westbound right turn lane be considered along with design elements and signage that would help reduce the potential for driver confusion.

Public Works staff thanked the Commission for its input and said that they would take all of the comments into consideration in preparing the proposal that will be taken to the City Manager and City Council. Considerations will be given to how the crash issue at the shopping center entrances and the right turn lane concerns at Burgess Rd can be addressed.

#### *Other Business / Announcements*

### **3. Meeting with Sunset Heights neighborhood to discuss traffic concerns**

Mr. Reed announced that residents from the Sunset Heights neighborhood have contacted the city to relate issues with speeding, cut-through traffic, and the passing of stopped schools buses on S Dogwood Dr and other streets in the vicinity. Public Works and Police Department staff met with representatives from the neighborhood on June 9 to discuss traffic-related concerns and next steps for addressing them. The neighborhood has requested and received additional enforcement and has participated in the Team Up to Slow Down Program. Residents have submitted a request for Public Works to conduct a formal neighborhood traffic study in the fall and worked with staff to identify the best locations for traffic counter placement. As per the guidelines of the Neighborhood Traffic Calming Program, this request for a traffic study will be submitted to City Council for their consideration.

#### *Adjourn*

# Proposed guidelines:

## Residential sight distance complaints

- When sight distance complaints are received for multi-family entrances on local, residential streets with 25 mph speed limit:
  - ▣ Review whether issue can be resolved by landscape trimming
  - ▣ If not, review impact of on-street parking on sight distance
  - ▣ If parking is the issue, city will consider a **50-ft on-street restriction** on each side of the entrance
  - ▣ If nearby homes don't have off-street parking, on-street parking removal may not be considered as an option or may be reduced from the 50-foot guideline

# Proposed guidelines:

## Residential sight distance complaints

### □ Caveats:

- Parking restrictions will not be considered for single family home driveways unless there is a corridor-wide issue and a documented safety problem
- Parking restriction may be considered for a driveway shared by many homes that acts like a multi-family entrance

### □ Street intersections:

- The 50-ft parking restriction will also be considered for 25 mph residential street or alley intersections (public and private)

# Impacts of proposal on Emerald Dr



# Evelyn Byrd Ave: Proposed lane reconfiguration



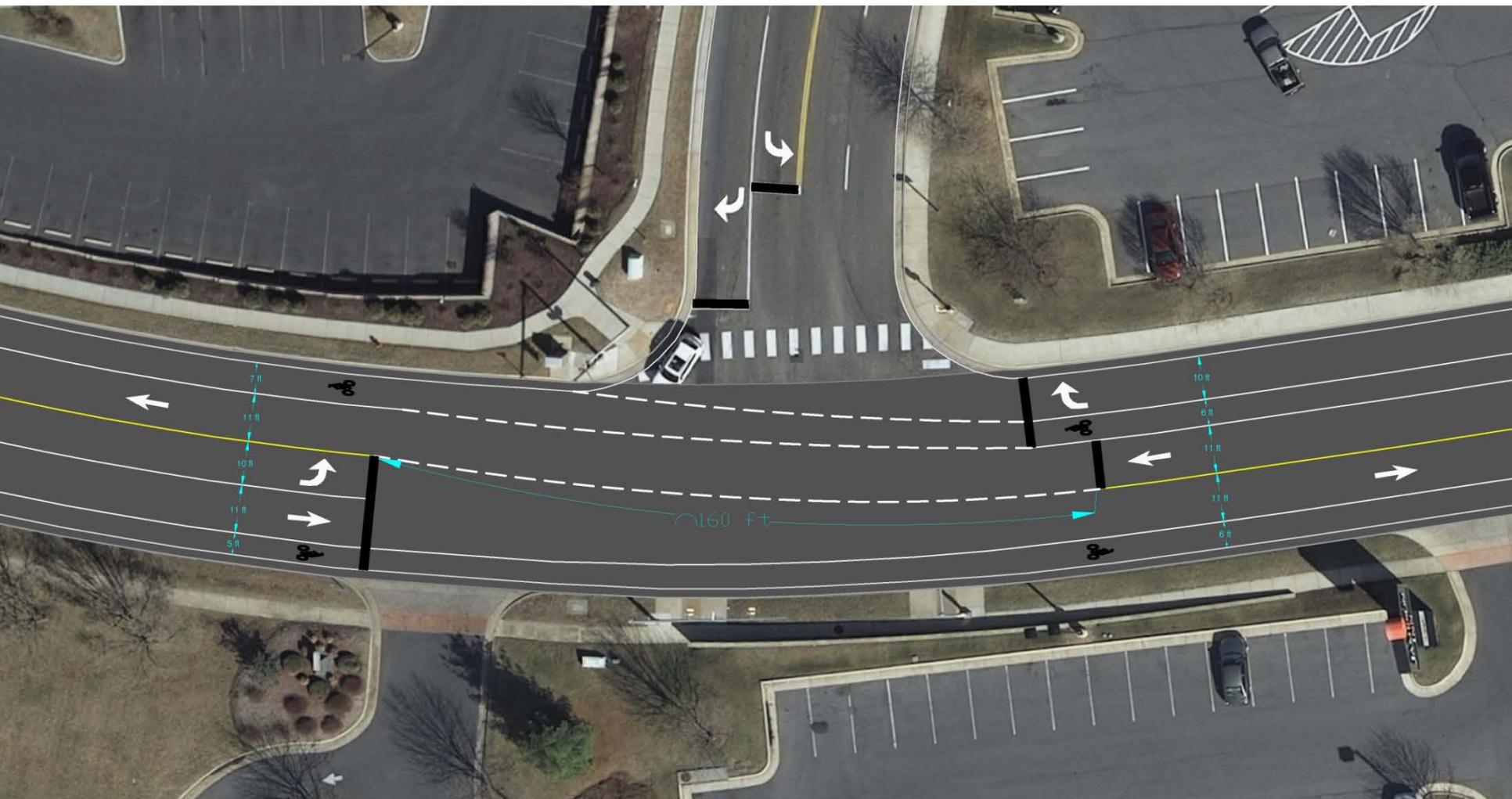
# Reservoir St Intersection



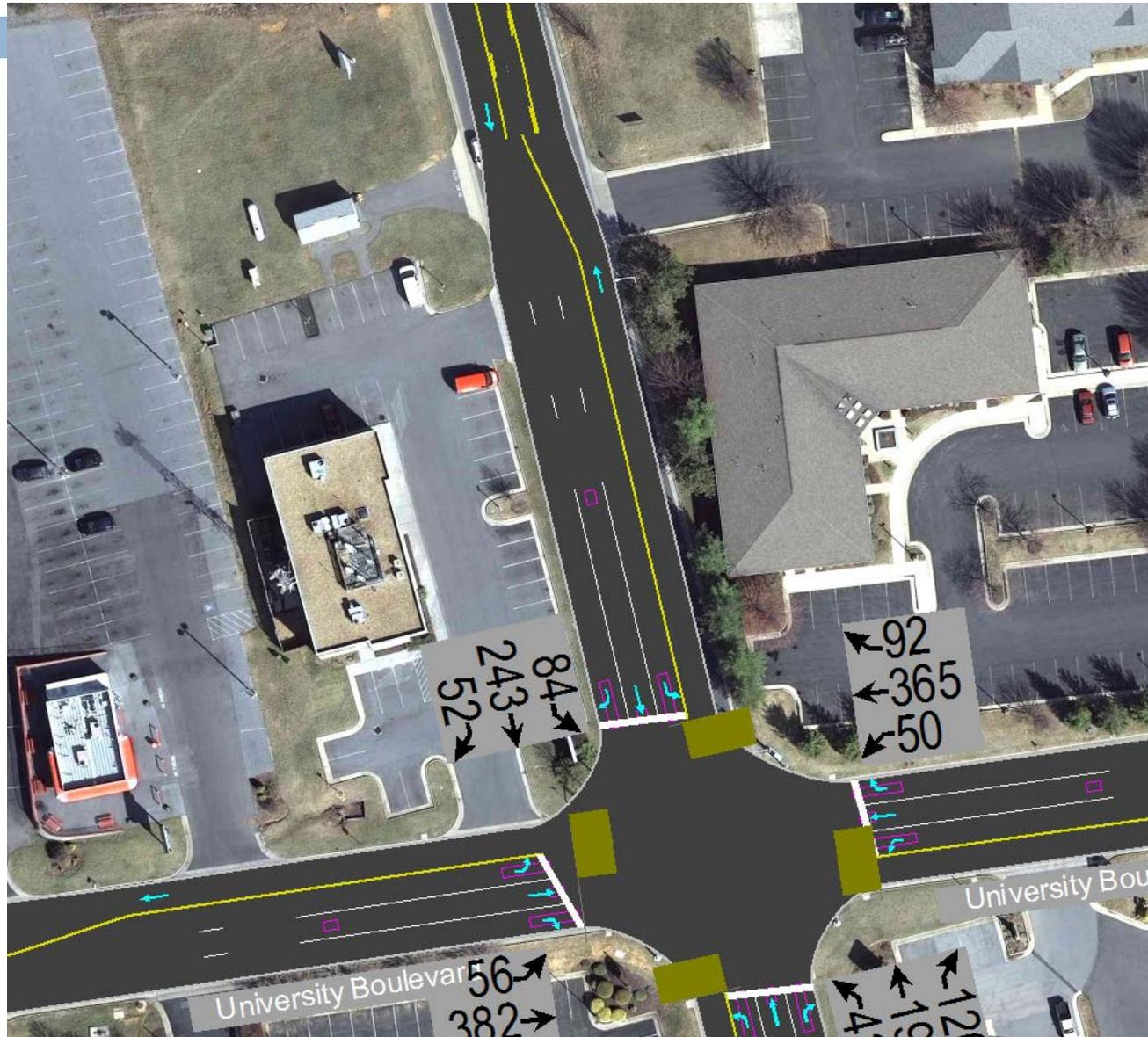
# Burgess Rd Intersection



# Burgess Rd Intersection



# University Blvd Intersection



# Evelyn Byrd Ave:

## Proposed lane reconfiguration

- Existing 4-lane section would be converted to:
  - 3-lane section with a center turn lane, one through lane in each direction, and bike lanes
- Primary benefits of this proposal:
  - **Separating left turns**, which can improve through movement delays and eliminate lane changes to pass turning vehicles.
  - **Reductions in speed differential** by providing more orderly and consistent through traffic flow along the corridor.
  - **Easier side street traffic crossings**, as traffic can more comfortably enter the mainline roadway because there are fewer lanes to cross. This can also reduce side-street delay.

# Evelyn Byrd Ave:

## Proposed lane reconfiguration

### □ **Pros**

- Documented as an effective safety improvement by the FHWA
- No loss in travel time or road capacity based on Public Works traffic modeling  
(1 feeder lane at each cross street and same number of approach lanes at each signalized intersection)
- Improved cycling safety through the addition of bike lanes

### □ **Cons**

- Perceived reduction in road capacity
- Reduction of \$10,823 per year in VDOT maintenance funding due to reduction from 4 to 2 qualifying lanes
- Potential for eastbound through traffic blockage at the Forbes Crossing shopping center entrances near Reservoir St

# Crash data (2013-2014)

- **Cumulated property damages of \$55,000**
  - 7 turning crashes at Forbes Crossing (Chipotle, etc.) due to poor sight and difficult gap selection
  - 5 turning crashes at commercial entrances in the vicinity of Burgess Rd
  - 1 rear end collision for an eastbound left turn onto Burgess Rd
  - 1 right turn on red collision turning off of Burgess Rd

	Evelyn Byrd Ave	Neff Ave	Lucy Dr
Speed Limit	25	35	25
Daily Traffic (ADT)	8000	8500	3000
# of Entrances	16	25	9
Length	0.47 mi	0.45 mi	0.5 mi
2-Year Crash Total	14	6	1
% Difference in Crashes vs. Evelyn Byrd Ave	-	-57%	-93%

# Evelyn Byrd Ave:

## Proposed lane reconfiguration

- Similar reconfigurations have been studied across the country, with the following results:
  - ▣ Overall crash reduction of 19 to 47% (29% expected)
    - Conflict points for mainline traffic reduced from 6 to 3
    - Conflict points for crossing traffic reduced from 8 to 4
    - Improved sight for left turning vehicles
  - ▣ Reduction in rear-end and left-turn crashes with center turn lane
  - ▣ Reduction in right-angle crashes (fewer lanes to cross and easier selection of gaps in traffic)
  - ▣ Potential for some speed reduction  
(85th percentile speeds currently 32-34 mph)
  - ▣ Improved pedestrian crossing safety (fewer lanes to cross)
  - ▣ Improved bicycling safety with addition of bike lanes

# Evelyn Byrd Ave – next steps

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- Request TSAC input on the proposal
- Present to City Council
- Change would occur in late June with repaving, accompanied by:
  - ▣ Press release
  - ▣ New Traffic Pattern Ahead signage

## **Proposed lane reconfiguration of Evelyn Byrd Ave (from Reservoir St to University Blvd)**

We are proposing a lane reconfiguration be considered for a ½ mile, 25 mph section of Evelyn Byrd Ave that is being repaved from Reservoir St to a point just before University Blvd to improve traffic safety and multimodal accommodations. The existing 4-lane section would be converted to a 3-lane section, with a center turn lane, one through lane in each direction, and bike lanes. The operational benefits of this change would be:

- **Separating left turns**, which can improve through movement delays and the need for lane changes to go around turning vehicles.
- **Reductions in speed differential** by providing more orderly and consistent through traffic flow and less “accordion-style” slow-and-go operations along the corridor.
- **Easier side street traffic crossings**, as traffic can more comfortably enter the mainline roadway because there are fewer lanes to cross. This can also reduce side-street delay.

Similar reconfigurations have been studied across the country, with the following results:

- Overall crash reduction of 19 to 47%, with the characteristics of Evelyn Byrd Ave placing it in the middle of this range at an anticipated reduction of 29%. This crash reduction would be attributed to:
  - Conflict points for mainline traffic being cut in half, from 6 to 3
  - Conflict points for crossing traffic being cut in half, from 8 to 4
  - The removal of the left turn sight issue looking past vehicles in the oncoming inside lane
- Reduction in rear-end and left-turn crashes with the use of a center turn lane
- Reduction in right-angle crashes, with fewer lanes to cross and easier selection of gaps in traffic
- Potential for some typical speed reduction, with a likely reduction in the highest travel speeds (prevailing, 85<sup>th</sup> percentile speeds are currently 32-34 mph on this section of Evelyn Byrd Ave)
- Improved pedestrian crossing safety with fewer lanes to cross
- Improved bicycling safety with the addition of bike lanes

This section of Evelyn Byrd Ave carries about 8,000 vehicles per day, which is equivalent to Neff Ave behind Valley Mall, Maryland Ave near Keister Elementary School, and Mt. Clinton Pk near Park Rd. Traffic analysis of the proposed change by Public Works staff shows that there would be no decrease in the overall capacity/throughput of the corridor. This result is driven by two factors: the presence of only a single lane feeding Evelyn Byrd Ave at each cross street, and the maintenance of the same number of approach lanes at each major intersection with the 3-lane proposal.

Delays for through traffic would be added when slowing for low volume transit bus stops once per hour and for right turning vehicles, though this would be offset by the elimination of delays in waiting for and going around left turning vehicles in the inside lanes. Delays at intersections would remain unchanged from present conditions.

Crash history was reviewed from 2013-2014, finding 14 total crashes that have a potential to have been limited in severity or avoided with a reduction in the number of travel lanes and/or the addition of a center turn lane. The cumulated property damages for these crashes as estimated by the reporting police officers are \$55,000. The details of these crashes are detailed here:

- 7 turning crashes at Forbes Crossing (Chipotle, etc.) due to poor sight and difficult gap selection
  - Would be addressed by reducing gap selection difficulties with the removal of a single lane coming away from Reservoir St so that only 3 lanes have to be crossed
- 5 turning crashes at commercial entrances in the vicinity of Burgess Rd
  - Having 16 commercial entrances in a ½ mile stretch means that there are many opportunities for crash reduction by the addition of a center turn lane. Ingress/egress at the entrance to Harrisonburg Medical Associates within the Burgess Rd intersection would be assisted by decreasing traffic complexity using a dedicated eastbound left turn lane rather than a shared through/left lane
- 1 rear end collision for an eastbound left turn onto Burgess Rd
  - Would be addressed by providing a dedicated eastbound left turn lane rather than a shared through/left lane. Having a dedicated turn lane makes vehicle actions easier to anticipate.
- 1 right turn on red collision turning off of Burgess Rd
  - Gap selection would be simplified because right turners would only have to watch one westbound through lane. The other westbound lane would be striped as a dedicated right turn lane at this intersection, making actions easier to anticipate.

These crash figures can be compared to two similar 3-lane city streets nearby, Neff Ave and Lucy Dr, over the same 2-year period:

- Neff Ave: 8500 vehicles per day
  - 2 turning crashes at 7-11 entrance due to poor sight past stopped vehicles (note that the 7-11 was opened in October 2013 and was not present during the entire crash evaluation period)
  - 3 turning crashes at Deyerle Ave, failure to yield right-of-way and/or obey stop sign, no vision obstruction
  - 1 turning crash at Medical Ave due to poor sight past stopped vehicles and a car traveling too far in center turn lane to avoid backup
- Lucy Dr: 3000 vehicles per day
  - 1 rear end crash in the center turn lane
  - No turning crashes

Below is a comparison summary for these three streets that demonstrates the potential safety benefits of the 3-lane configuration versus a 4-lane one. Of particular note is the comparison with Neff Ave, which has a higher speed limit, more traffic, and more commercial entrances than Evelyn Byrd Ave, yet has a 57% lower crash rate.

	<b>Evelyn Byrd Ave</b>	<b>Neff Ave</b>	<b>Lucy Dr</b>
<b>Speed Limit</b>	25	35	25
<b>Daily Traffic (ADT)</b>	8000	8500	3000
<b># of Entrances</b>	16	25	9
<b>Length</b>	0.47 mi	0.45 mi	0.5 mi
<b>2-Year Crash Total</b>	14	6	1
<b>% Difference in Crashes vs. Evelyn Byrd Ave</b>	-	<b>-57%</b>	<b>-93%</b>

The pros and cons of this proposed change are summarized here:

- **Pros**
  - Documented as an effective safety improvement by the FHWA
  - No loss in travel time or road capacity based on Public Works traffic modeling
  - Improved cycling safety through the addition of bike lanes
- **Cons**
  - Perceived reduction in road capacity
  - Reduction of \$10,823 per year in VDOT maintenance funding due to reduction from 4 to 2 qualifying lanes
  - Potential for eastbound through traffic blockage at the Forbes Crossing shopping center entrances near Reservoir St (exists when vehicles want to turn left and are blocked by long westbound vehicle queues during peak periods)

Provided that there are no issues with this proposal, we plan to present the idea to the Transportation Safety & Advisory Commission at its June meeting to gather their input. Following that, a presentation would be made to City Council to request their approval. It is recommended that a press release go out to describe the change and explain the expected safety benefits once final approval is received. Repaving is expected to occur in mid- to late-June, after which the new lane markings would be applied and signs would be installed to alert drivers of the new traffic pattern.