

MEMORANDUM

#4

To: Loudoun County Planning Commission

From: Lou Mosurak, AICP, Transportation Planning Program Manager, DTCI
Joe Kroboth, PE, Director, DTCI
Joshua Peters, AICP, Senior Planner, Planning and Zoning
Daniel Galindo, AICP, Assistant Director, Planning and Zoning

Date: March 4, 2022

Re: March 11, 2022, Planning Commission Work Session
CPAM-2021-0002, US Route 15 North – Widening and Safety Improvements

PURPOSE

The purpose of this Comprehensive Plan Amendment (CPAM) is to amend the *Loudoun County 2019 Countywide Transportation Plan (2019 CTP)* by changing the classification of US Route 15 between Montresor Road (VA Route 661) and the Maryland state line. The CPAM would allow for:

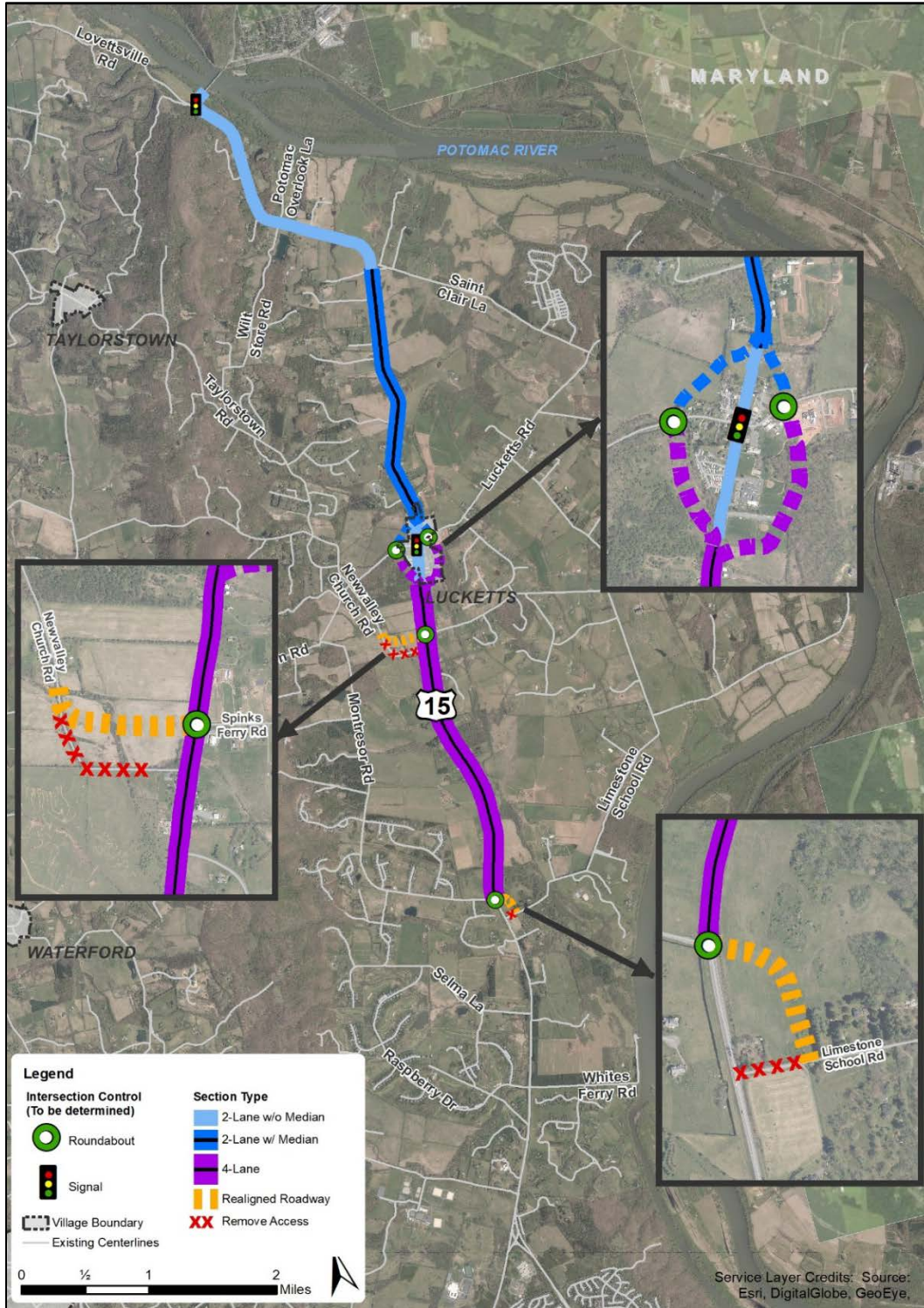
- Widening US Route 15 from two lanes to four lanes from Montresor Road to Stumptown Road/Lucketts Road;
- A bypass around the Village of Lucketts; and
- A median divide for the proposed four-lane section south of the Village of Lucketts and a portion of the two-lane section north of the Village of Lucketts to Saint Clair Lane.

The proposed CPAM improvements are depicted in Figure 1 along with planned intersection controls within the portion of the corridor that is under consideration (intersection controls are not components of the CPAM). The proposed Countywide Transportation Roadway Plan Map is provided as Attachment 1, along with cross sections of each segment to reflect the proposed CPAM. These segments of US Route 15 are currently classified in the 2019 CTP as rural two-lane local access undivided Principal Arterial (Other) roadways.

STAFF RECOMMENDATION

Staff supports a Planning Commission (Commission) recommendation of approval to the Board of Supervisors (Board), with specific endorsement of an eastern bypass around the Village of Lucketts. The CPAM is ready for Commission action.

Figure 1: Vicinity Map



PROPOSAL

The CPAM proposes the following amendments to the Planning Guidelines of the 2019 CTP for US Route 15 (Attachment 2):

- **Widening**: Change the ultimate condition of US Route 15 from Montresor Road north to Stumptown Road/Lucketts Road (including a future Lucketts Bypass) from a rural two-lane undivided Principal Arterial (Other) to a rural four-lane median divided Principal Arterial (Other) roadway;
- **Bypass/Route 15 Business**: Change the ultimate condition of the existing US Route 15 from the future southern Lucketts Bypass intersection to the future northern Lucketts bypass intersection from a rural two-lane undivided Principal Arterial (Other) to a rural two-lane Major Collector roadway. This would become future US Route 15 Business through Lucketts on the existing US Route 15 alignment; and
- **Median Divide**: Change the ultimate condition of US Route 15 from Stumptown Road/Lucketts Road (including a future Lucketts Bypass) north to Saint Clair Lane from a rural two-lane undivided Principal Arterial (Other) to a rural two-lane median divided Principal Arterial (Other) roadway.

BACKGROUND

The improvements proposed by this CPAM (i.e., number of lanes, Village of Lucketts bypass, and median divide) are components of a design concept, "Concept B," that was previously endorsed by the Board (6-2-1: Buffington and Higgins opposed; Buona absent) at the July 18, 2019, Board Business Meeting. Concept B includes a suite of safety and capacity improvements. The Board endorsed this concept over Concept A (safety-focused improvements) and Concept C (no build), as outlined in the [Route 15 – Safety and Operations Study: Whites Ferry Road to Maryland State Line](#). This study was an expansion of an earlier effort to identify causes for congestion in the US Route 15 corridor, as outlined in the [US Route 15 Congestion Report Findings \(the Report\)](#). At the March 16, 2021, Board Business Meeting, the Board voted (8-1: Buffington opposed) to initiate the subject CPAM so that Concept B could be fully implemented, in accordance with the Board's earlier endorsement of this set of improvements.

The Commission held a [Public Hearing on November 30, 2021](#), during which 21 speakers provided public comments on the [proposed CPAM](#). A majority of speakers expressed opposition to the four-lane widening and many expressed opposition to the proposed potential western bypass option. A majority of speakers expressed support for safety improvements, and many specifically supported the proposed roundabouts that are contemplated by the Concept B improvements. Some speakers expressed support for the four-lane widening, noting that moving the area of

congestion further north would benefit County residents who utilize segments of US Route 15 to reach their neighborhoods. A few speakers expressed opposition to an eastern bypass option because of the traffic that would be redirected toward the Falconaire community.

The Commission discussed the need for safety improvements along the corridor, the constraints involved for both potential bypass options, the effect of a median divide on left turn movements, and the potential impacts of widening the roadway on existing pull-off areas. The Commission requested that staff provide additional information for consideration during a future work session. The Commission's questions and information requests pertained generally to: the form and scope that a Commission recommendation may take, potentially limiting commuter traffic on local/side roads, dimensions of anticipated shoulders and median divides, how to determine the location and design of median breaks, what happens to existing pull-off areas and driveways of the existing two-lane alignment, and traffic counts on VA Route 9 through Hillsboro compared to US Route 15 through the Village of Lucketts. The Commission forwarded the application (8-0-1: Kirchner absent) to a future work session for further discussion.

The Commission held a [Work Session on January 13, 2022](#), during which the Commission's discussion acknowledged the need to address existing safety and congestion concerns within the corridor. The Commission sought to establish a better cost-benefit comparison between the Board-endorsed Concept B improvements and some alternative approach that would not include additional lanes or a bypass around the Village of Lucketts. The Commission requested that staff provide additional information relative to that goal at a future work session. The specific requests are outlined within the Updates/Requests for Information section of this report. The Commission forwarded the application (7-0-2: Frank and Barnes absent) to an additional work session for discussion on the forthcoming information.

Staff has received zero comments on the Loudoun Online Land Application System (LOLA) but nearly 250 comments via email expressing a range of opinions including full support, support for safety improvements but not the four-lane widening, and complete opposition to the CPAM. Among the comments that expressed opposition, the four-lane widening and conceptual bypass options are the most often-cited concerns due to potential impacts on businesses, homes, and natural resources. The staff reports and associated attachments, including public comment received, can be viewed online at www.loudoun.gov/lola; search "CPAM-2021-0002."

UPDATES/REQUESTS FOR INFORMATION

The following information is provided in response to Commission requests at the January 13, 2022, Planning Commission Work Session.

1. Question/Request: What are the economic impacts on local farms and businesses if a segment of US Route 15 is constructed to four lanes (from the current two lanes), and a median divide is installed, as presented with the US Route 15 CPAM and Concept B improvements?

Staff Response: From an operational perspective, the primary drawback to farms and businesses would be restrictions on left-turns caused by the proposed median divide. The primary benefits of the Concept B improvements would be to reduce travel times to and from destinations and to improve pedestrian mobility within the village. Access to businesses would be maintained and the installation of shoulders would enable inoperable vehicles to be removed from the roadway. Reduced travel times and increased travel time reliability can result in economic benefits to commuter, business and leisure travelers along the corridor. For example, leisure travelers choosing their destination to a farm brewery along the corridor may choose based on expected travel time.

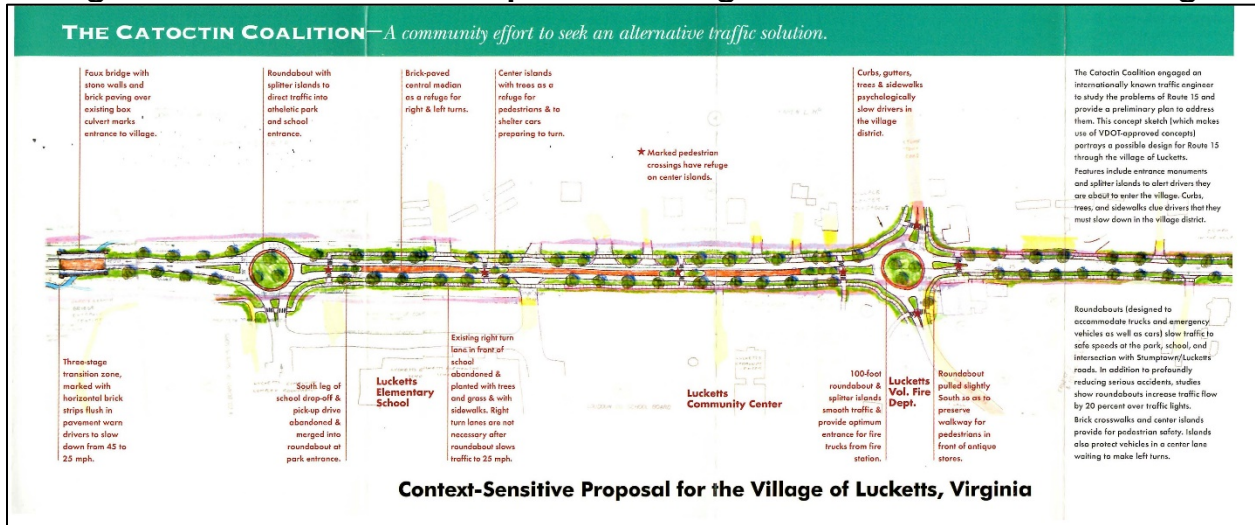
If the Commission seeks additional quantitative measures to evaluate these impacts, the County will need to initiate a study – at Board direction – that includes a defined scope, cost, and timing. A data-driven study would be outsourced by County staff via the Department of Economic Development (DED) and the cost and timing of the project would be determined by the Board. The Commission may include a recommendation to the Board to initiate such a study prior to implementation of these roadway improvements.

2. Question/Request: How do the Concept B improvements compare to those of the Ian Lockwood concept in terms of physical improvements and cost to implement?

Staff Response: The Lockwood plan (Figure 2) offers some good options for improving the safety and livability within the Village of Lucketts, including gateway enhancements, landscaping, planted medians, pedestrian refuge islands, sidewalks, and other aesthetic treatments. Staff can support all of these elements but has specific concerns about the viability of a roundabout at the Lucketts Road intersection due to potential impacts on neighboring buildings and properties. Traffic calming and streetscape improvements through the Village of Lucketts are also included in the Concept B design alternative. The potential bypass that is included in the CPAM would allow for through vehicles to avoid passing through the village center, thereby improving bicycle and pedestrian mobility and safety fronting the Elementary School, residential neighborhoods, community center, and businesses.

It should be noted that the Lockwood concept is not an engineered plan, was not based on a traffic study, does not include stormwater management facilities, and does not address utility relocation.

Figure 2. Lockwood sketch plan for Village of Lucketts traffic calming



A comparison of the specific project elements is provided with Table 1.

Table 1. Comparison of Lockwood Concept to Concept B

<p>Concept B Montresor Road to MD state line: Approximately 7.4 miles</p>	<p>Lockwood Concept Segment of US Route 15 through Village of Lucketts Approximately 0.4 miles</p>
<p>South of Village of Lucketts Montresor Road to the vicinity of Spinks Ferry Road:</p> <ul style="list-style-type: none"> • Four lanes; • Median with turn lanes; and • Shoulders. 	<p>Outside the scope of Lockwood concept.</p>
<p>Bypass around Village of Lucketts:</p> <ul style="list-style-type: none"> • Four lanes with median divide south of Stumptown Road / Lucketts Road; and • Two lanes with median divide north thereof. 	<p>No bypass proposed.</p>

<p style="text-align: center;">Concept B <i>Montresor Road to MD state line: Approximately 7.4 miles</i></p>	<p style="text-align: center;">Lockwood Concept <i>Segment of US Route 15 through Village of Lucketts Approximately 0.4 miles</i></p>
<p>Traffic calming within Village of Lucketts:</p> <p>The Virginia Department of Transportation (VDOT) has a separate project in design for Village of Lucketts Safety Improvements (UPC 68760) which has the following improvements which will implement some of the proposed Lockwood Concept:</p> <ul style="list-style-type: none"> • New sidewalks; • Enhance the pedestrian crossing adjacent to the northern Lucketts Elementary School entrance; • Stripe a new crosswalk with pedestrian signals at the Stumptown Road (Route 662) intersection; and • Modify the right-turn lane to Lucketts Road (Route 662). <p>There is also the potential for additional traffic calming measures within the Village in the future beyond those identified in the VDOT project.</p>	<p>Traffic calming within Village of Lucketts:</p> <ul style="list-style-type: none"> • Two lanes; • New sidewalks; • Street trees; • Brick-paved central median; • No shoulders depicted; • Three-stage speed transition at village entrances; • Roundabouts at Lucketts Elementary School and Stumptown Road / Lucketts Road; • Northbound right turn lane at elementary school abandoned; • Pedestrian refuge in median; and • Mid-block pedestrian crossings.
<p>North of Village of Lucketts</p> <p>From bypass to St Clair Lane:</p> <ul style="list-style-type: none"> • Two lanes; • Median divide; and • Turn lanes and shoulders. <p>From St Clair Lane to MD state line:</p> <ul style="list-style-type: none"> • Shoulder improvements made to the existing two-lane roadway north of St. Clair Lane to the Potomac River. 	<p>Outside the scope of Lockwood concept.</p>

<p style="text-align: center;">Concept B <i>Montresor Road to MD state line: Approximately 7.4 miles</i></p>	<p style="text-align: center;">Lockwood Concept <i>Segment of US Route 15 through Village of Lucketts Approximately 0.4 miles</i></p>
<p>Other Vicinity Roundabouts:</p> <ul style="list-style-type: none"> • Montresor Road; • Newvalley Church Road; and • Intersection of Stumptown Road with Lucketts bypass. 	<p>Outside the scope of Lockwood concept.</p>
<p>Realigning intersections</p> <ul style="list-style-type: none"> • US Route 15 / Newvalley Church Road / Spinks Ferry Road; and • US Route 15 / Limestone School Road / Montresor Road. 	<p>Outside the scope of Lockwood concept.</p>
<p>Traffic signal at Lovettsville Road.</p>	<p>Outside the scope of Lockwood concept.</p>
<p>Bike, pedestrian, and transit service opportunities.</p>	<p>Pedestrian opportunities as outlined above. Bike and transit opportunities not explicitly depicted.</p>

3. Question/Request: Provide quantitative data on benefits of safety improvements; for instance, a comparison of forecasted crash/safety data for Concept A vs. Concept B.

Staff Response: The safety benefits of Concept A vs. Concept B are generally the same. In a scenario where the same volume of traffic is routed through a four-lane roadway rather than two lanes, queuing would be reduced in the four-lane design (Concept B), providing for improved travel times and reliability. The reduced queuing is associated with minor improvements to safety due to fewer rear-end collisions. Beyond that, there are only minor differences in safety between Concept A and Concept B assuming both concepts include standard shoulders and a median divide. The primary differences between two- and four-lane concepts from a traffic modeling perspective are the improved travel times and reliability.

Attachment 3 shows a summary of the crash modification analysis completed as part of the US 15 Safety and Operations Study. This Future Conditions Safety Analysis evaluated a number of roadway treatments to improve the expected safety in the corridor Safety and Operations study area. Crash Modification Factors (CMFs) are used to evaluate the potential benefits of implementing the concept

improvements and compute the expected number of crashes after implementing a countermeasure¹ on a road or intersection. Transportation professionals frequently use CMF values to identify countermeasures with the greatest safety benefit for a particular crash type or location. Highlights are noted in Tables 2 and 3, below:

Table 2. Mainline Crash Modification Factors

Table Mainline Crash Modification Factors

Mainline						
	Rumble Strips in Centerline	Rumble Strip in Centerline and Edge Line	Rumble Strips on Edge Line	Rumble Strips on Edge Line	Raised Median	Widening to 4 Lanes with Median
Number of Lanes	2	2 to 4	2	4	2	4
CMF	0.86	0.82	0.74	0.84	0.82 (0.88)	0.712
Crash Affected	All Types/All Severities	All Types/(Fatal or A injuries)	Run off road/All Severities	All Types/All Severities	All Types/PDO (All Injuries)	All Types/All Severities
Source	HSM 13-46	CMF Clearinghouse	CMF Clearinghouse	HSM 13-44	HSM 13-11	CMF Clearinghouse

Table 3. Intersection Crash Modification Factors

Table Intersection Crash Modification Factors

Intersection					
	Signal to Single-lane Roundabout	Signal to Two-lane Roundabout	3 Leg Intersection to Single-lane Roundabout	3 Leg Intersection to Two-lane Roundabout	Stop Control to Signal
Number of Lanes	1	2	1	2	N/A
CMF	0.52	0.955	0.29	0.33	0.56
Crash Affected	All Types/All Severities	All Types/All Severities	All Types/All Severities	All Types/All Severities	All Types/All Severities
Source	HSM 14-3	CMF Clearinghouse	HSM 14-4	CMF Clearinghouse	HSM 14-7

4. Question: Provide an interpretation of the Virginia Office of Intermodal Planning & Investment (OIPI) Potential for Safety Improvement (PSI) for Fatal and Injury Crashes (2016-2020) (hereafter "PSI Study"), provided as Attachment 4.² Provide

¹ The U.S. Department of Transportation Federal Highway Administration defines **Proven Safety Countermeasures** as, "a collection of countermeasures and strategies effective in reducing roadway fatalities and serious injuries on our Nation's highways."

² Distributed to the Commission on behalf of Chairman Hayes by email on January 13, 2022.

an explanation of the safety issues specific to each segment of US Route 15, as set forth in the PSI Study.

*Staff Response: While the OIPI PSI analysis is valid and is valuable with respect to assessing the total number of crashes along a corridor, it is important to note that the relative safety of a corridor compared to other corridors can also be reflected in a **crash rate**, which is normalized by traffic volume. For example, 50 crashes along a corridor that serves 20,000 vehicles per day compared to the same number of crashes along a corridor that serves 100,000 vehicles per day is a higher crash rate, indicating a less safe corridor.*

Crash rates are calculated by dividing the total number of crashes over a specified period by a measure of exposure, in this case, traffic volume. For this analysis, DTCI used Vehicle Miles Traveled (VMT) for the traffic volume and calculated crash exposure normalized per 1 million vehicle miles of travel (MVM). When comparing the average daily traffic (ADT) on Route 7 to the segments of US Route 15 North, there are approximately 62,000 ADT on Route 7 compared to 15,000-20,000 ADT on US Route 15 North. Therefore, a higher volume of crashes can be expected on Route 7 than on US Route 15 North. The exposure for Route 7 is 452.6 MVM and for US Route 15 North is 331.6 MVM. When examining the crash rates for only the crashes resulting in severe and fatal injuries, the crash rates for US Route 15 north of Leesburg are higher with a value of 0.084 than for the segment of Route 7 east of Leesburg (from Route 28 to Fairfax County line) with a value of 0.066. In reviewing the higher volume segments of Route 7 between the Leesburg Bypass and Route 28, the crash rate is even lower at 0.032. This is not to say that there are not severe or fatal crashes along Route 7, but rather the rate of severe and fatal crashes per MVM along Route 7 east of Leesburg is lower than that of US Route 15 north of Leesburg. Maps have been provided in Attachment 5 showing the general location of reported severe and fatal crashes on US Route 15 north of Leesburg and Route 7 east of Leesburg.

Table 4. Traffic and Crash Volumes: Comparing US Route 15 to Route 7

	Average Annual Daily Traffic ^a (AADT)	Million Vehicle Miles ^b (MVM)	Number of Fatal + Number of Severe Crashes ^c	Segment Crash Rate (Crashes per year per MVM)
Route 7 from Leesburg Bypass to VA 28	89,667	1194.6	38	0.032
Route 7 from VA 28 to FFX County Line	62,000	452.6	30	0.066
US Route 15 North of Leesburg	18,333	331.6	28	0.084

a: 2019 ADT information was used.

b: $MVM = AADT * \text{segment length} * 365 * \text{number of years} / 1,000,000$

c: Crashes from 2016 to 2020 were used for the DTCI analysis.

5. Question: What are the funding sources for the Concept B improvements?

Staff Response: Funding sources are to-be-determined based on Department of Finance and Budget guidance (e.g., local revenue, bonding, regional/state/federal funds). The adopted 2019 Countywide Transportation Plan notes the following with respect to funding sources:

“The planning, design, construction, operation and maintenance of a multi-modal transportation system are completely dependent upon the availability of adequate funding. The funding of transportation infrastructure requires significant expenditure of capital, typically beyond the resources of local government. Traditionally, the County has depended on State and Federal funds for the design and construction of transportation projects, augmented by private sector contributions, known as proffers. However, as traditional sources of funding dwindled, the County was forced to increasingly rely upon private sector contributions, and to implement funding alternatives, including the sale of bonds and the use of innovative financing options. While the County has been successful in utilizing a variety of means to finance transportation projects, the inherent uncertainty in the timing of infrastructure improvements linked to private sector projects remains a challenge. Also, key projects continue to remain unfunded or underfunded where financing is unavailable or inadequate. Finally, rising construction costs further complicate the issue. Accordingly, the County places an emphasis on setting priorities through annual project review and provides guidelines and direction for funding acquisition and management.

Funding sources include local, regional, state, federal, and public-private funding sources (including proffers). Each of the listed funding programs has specific criteria that must be met in order to be used. The County seeks to take advantage of all available resources, or a combination thereof, in an effort to secure adequate funding and advance its transportation initiatives. Leveraging outside, or non-local source funding, is a primary goal for the County.”

6. Question: What kind of environmental impact studies will be done?

Staff Response: The County (or its contractor) will be required to submit studies that investigate the presence of and potential impacts to environmental resources during submission of construction plans. These studies address floodplain, wetlands, surficial geology, tree cover, threatened and endangered species, stormwater, and cultural and archaeological resources. Most studies follow a format of first documenting existing conditions, and if that initial investigation

identifies the presence of a natural resource, a further investigation is required. For example, if floodplain is potentially present on a property, a floodplain study is required to delineate the floodplain boundary; and if that boundary is encroached by a project, the further requirement is for either an approved Declaration of No Impact or an approved Floodplain Alteration.

7. Question: Provide relevant examples of a two-lane divided highway, such as contemplated by Concept B for US Route 15 between Village of Lucketts and St Clair Lane.

Staff Response: *Figures 3-6 depict two-lane arterial roadways with a median divide.*

Figure 3.
MD Route 90, Ocean City, MD



Figure 4.
Hampstead Bypass, MD



Figure 5.
I-93, White Mountains, NH



Figure 6.
US Route 6, Cape Cod, MA



8. Question: Explain the traffic calming benefits of a bypass.

Staff Response: *Removing thru US 15 traffic from a future US Route 15 Business between Spinks Ferry Road and north of Lucketts Road / Stumptown Road including the frontage of the Lucketts Elementary School, residential homes, Lucketts Community Center, and commercial businesses would provide for the following benefits: reduced traffic noise for adjacent land uses; reduced exposure to people crossing the roadway as pedestrians; improved level of comfort for people walking on sidewalks along the village roadway; reduced level of traffic stress for people bicycling through the village; ability for Loudoun County Public*

Schools to consider establishing a walking zone that would include the residential community across the street from Lucketts Elementary School and removing the current situation where elementary schools are bussed across the street.

9. Question: Explain how induced demand is relevant or not relevant to the potential widening of US Route 15, as proposed by Concept B.

Staff Response: The concept of induced demand suggests that adding capacity to a roadway creates or “induces” new demand for a roadway where demand did not previously exist. However, travel demand is not generated by the addition of network capacity, rather travel demand is created by existing and future jobs and household population produced trips. The distribution of trips produced by the jobs and population is then distributed on the available network based on a gravity model where travel time via various routes drives the distribution of trips. Certainly, the addition of capacity on a roadway could result in increased volumes on that roadway, but it also may reduce volumes on parallel roadways. Population and employment growth will also drive increased travel volumes.

10. Question: What will the future posted speeds be for the ultimate condition of US Route 15?

Staff Response: Posted speed limit is determined during design and subject to VDOT approval. Staff anticipates a design speed of 45 mph, consistent with VDOT Other Principal Arterial GS-1 Standards, for the segments outside the Village of Lucketts. Staff anticipates that the posted speed would mirror the design speed on those segments, and transition to 25 mph within the future US Route 15 Business segment, through the Village of Lucketts.

11. Question: Provide clarification on the growth forecast/assumptions included in the traffic model.

Staff Response: Multiple data sources were used to forecast growth rates for the US 15 North Safety and Operations study. The Loudoun County Travel Demand Model (LCTM), MWCOG’s regional travel demand model, the Northern Virginia Transportation Authority travel demand model, and population and employment data were all referenced during the development of corridor growth rates. Based on this information, the Safety and Operational Study applied a 0.75 percent annual linear growth rate on US Route 15 north of Montresor Road, which is a reasonable assumption based on a comparison of the various models. It is noted that the MWCOG model is calibrated at a regional level and represents projected traffic coming from Maryland. Tables 5 & 6 below present a comparison of the projected annual growth rate of the traffic models.

Tables 5 & 6. Annual Growth Rate Calculations

Route 15

Safety and Operations Study from Whites Ferry Road to the Maryland State Line



Table 1: Annual Growth Rate Calculations for Route 15 Screenline Segments

Screenline	Roadways	2016 VDOT AADT*	2016 Model Volumes		2030 Model Volumes		2040 Model Volumes		2016->2030 growth		2016->2040 growth	
			Loudoun	MWCOG**	Loudoun	MWCOG	Loudoun	MWCOG	Loudoun	MWCOG	Loudoun	MWCOG
Potomac Crossings Screenline	Route 287 and Route 15	21,400	49,780	55,320	44,050	62,780	49,250	66,550	-0.82%	0.90%	-0.04%	0.81%
North of Lucketts Screenline	Route 673 (Bald Hill Rd), Route 663 (Taylorstown Rd), Route 15, Route 662 (Lucketts Rd), Route 657 (Spinks Ferry Rd)	20,250	31,860	41,600	31,940	46,750	40,810	48,410	0.02%	0.83%	1.17%	0.65%
Montresor/Limestone Area Screenline	Route 661 (Montresor Rd), Route 15, Route 661 (Limestone School Rd)	29,080	32,620	42,240	34,520	47,740	38,930	49,770	0.42%	0.87%	0.81%	0.71%
Just north of Leesburg Screenline	Route 662 (Clarks Gap Rd), Route 698 (Old Waterford Rd), Route 15	28,860	37,400	52,080	42,920	60,030	47,890	64,850	1.05%	1.02%	1.17%	0.98%

* Many rural road counts are multiple years old, may not reflect 2016 conditions.
 ** MWCOG Volumes are from 2017 model year

Table 2: Annual Growth Rate Calculations for Route 15-Only Links

Annual Linear Growth Rate along Route 15-Only Segments						
Growth Calculation Period	13 years (2017-2030)	14 years (2016-2030)		23 years (2017-2040)	24 years (2016-2040)	
Source	MWCOG Travel Demand Model	Loudoun County Travel Demand Model	NVTA Travel Demand Model	MWCOG Travel Demand Model	Loudoun County Travel Demand Model	NVTA Travel Demand Model
Whites Ferry Road to Montresor Road	0.72%	0.32%		0.50%	0.40%	
Montresor Road to Lucketts Road	0.67%	0.09%		0.46%	0.20%	
Lucketts Road to Lovettsville Road	0.39%	-0.41%		0.27%	-0.05%	
Lovettsville Road to Maryland State Line	0.86%	-0.26%		0.73%	0.23%	0.62%

Figure 1: US 15 North Safety and Operations Study Growth Rate Assumptions

12.Question: What is a realistic design/build budget for immediate interim safety improvements (e.g., shoulders and traffic calming)?

Staff Response: Staff provides cost estimates in Table 7 for design scenarios that have been discussed previously.

Table 7. Cost of Design Concepts			
Concept	Elements	2019 Study Estimate	2022 Estimate Update
Concept A Study	Excludes four-lane widening. Includes bypass, shoulders and shared use path	\$168 million	n/a

Concept B Study (Kirchner Question)	Includes four lane widening, bypass, shoulders and shared use path.	\$217 million	\$294 million to \$308 million ^{a,c}
Concept A Modified 1	Village Traffic Calming Only (Spinks Ferry Road to 0.4 miles north of Lucketts Stumptown Road)	n/a	\$40 million - \$45 million ^b
Concept A Modified 2 (per Chairman Hayes' Question)	Concept A excluding Shared Use Path, bypass and traffic calming (Shoulders & Median Divide Only)	n/a	Estimate Under Development by DTCl ^d

a: Source FY23-FY28 Proposed Capital Improvement Program Estimate – Design not completed – 2022 dollars

b: Source Planning Level Cost / Concept - Design not completed – 2022 dollars

c: Does not include Lovettsville Road at US 15 intersection improvements or any US Route 15 projects south of Montresor Road.

d. Update to be provided at March 11, 2022, Planning Commission Work Session.

TOPICS FOR DISCUSSION

Staff identifies the following issues for continued discussion:

Village of Lucketts Bypass – Staff continues to recommend that the Commission discuss and provide a recommendation on the conceptual bypass location – east or west of US Route 15 – around the Village of Lucketts. The bypass options along with planning level opportunities and constraints are depicted in Attachment 6. The bypass alignments are intended to be conceptual in nature, are not engineered, and would be subject to additional refinement during any future design phase. While the Western Bypass option was recommended by the previously completed planning study as a preferred alternative, the establishment of a new and extensive conservation easement on the property identified by Parcel Identification Number 179-38-8617, sale of the same property to the Loudoun Wildlife Conservancy, and establishment of the JK Black Oak Wildlife Sanctuary, has significantly changed conditions since the original study. Because of this change and in recognition of environmental features associated with the Sanctuary, staff recommends the Eastern Bypass as the preferred ultimate bypass alignment.

While not recommended by the previously completed study, the environmental impacts associated with an Eastern Bypass appear to be less intensive than those associated with a Western Bypass. The Eastern Bypass still has floodplain, conservation easements, and undeveloped property impacts. Specific impacts would be identified and minimized during the design phase. While the planning study results support the CPAM recommendation of a four-lane US Route 15 and a four-lane bypass all the way to Lucketts Road, staff recommends initial implementation of a two-lane divided Eastern Bypass. This CPAM scenario would result in the initial four-lane divided section terminating at a point north of Spinks Ferry Road and south of the

southern terminus of the Eastern Bypass. A roundabout would be considered as the intersection control at the intersection of the Eastern Bypass and Lucketts Road during the design phase.

While the bypass question poses an opportunity for the Commission to provide a specific recommendation for one alignment over the other, the Commission may alternatively recommend “for” or “against” the bypass concept. The Final Design process will include a more detailed assessment of impacts and constraints with any future bypass locations.

ALTERNATIVES

1. **Approve.** The Commission may forward the CPAM to the Board with a recommendation of approval, including endorsement of a specific bypass alignment (e.g., eastern, western, none, or other).
2. **Approve in-part.** The Commission may forward the CPAM to the Board with a recommendation to approve certain components of the CPAM and not others. The three general components of this CPAM include:
 - a. Widening. Widening from two lanes to four lanes between Montresor Road and Village of Lucketts.
 - b. Bypass/Route 15 Business. A bypass around the Village of Lucketts, allowing the current alignment through the village to become Route 15 Business.
 - c. Median Divide. A median divide would be part of the road design on the four-lane portion south of the Village of Lucketts and the two-lane portion north of the Village of Lucketts to Saint Clair Lane.
3. **Approve with revisions.** The Commission may forward the CPAM to the Board with either of the above recommendations, subject to additional recommendations.
4. **Deny.** The Commission may forward the CPAM to the Board with a recommendation of denial.

DRAFT MOTIONS

1. I move that the Planning Commission adopt the proposed Resolution Recommending Approval of CPAM-2021-0002 included as Attachment 7 to the Planning Commission Work Session Memorandum dated March 11, 2022.

OR

2. I move that the Loudoun County Planning Commission adopt the proposed Resolution Recommending Approval of CPAM-2021-0002 included as Attachment 7 to the Planning Commission Work Session Memorandum dated March 11, 2022, with the following revisions:

- a. _____; and
- b. _____.

I further move that the Planning Commission direct staff to prepare a revised resolution consistent with this motion and authorize the Chairman to sign the resolution as revised.

OR

3. I move that the Planning Commission adopt the proposed Resolution Recommending Denial of CPAM-2021-0002 included as Attachment 8 to the Planning Commission Work Session Memorandum dated March 11, 2022.

ATTACHMENTS

1. Proposed Countywide Transportation Roadway Plan Map with Cross Sections
2. Proposed 2019 CTP Appendix 1 – Planning Guidelines
3. US 15 Safety and Operation Study Crash Modification Factors Summary – 2019
4. Potential for Safety Improvement (PSI) for Fatal and Injury Crashes (2016-2020)
5. Severe and Fatal Crash Maps US 15 North of Leesburg and VA 7 East of Leesburg
6. Conceptual Eastern and Western Bypass Opportunities & Constraint Maps
7. Resolution recommending approval of CPAM-2021-0002
8. Resolution recommending denial of CPAM-2021-0002