

March 4, 2019

5:30 p.m.

**PUBLIC HEARING**

For consideration of Rezoning Application #R-2018-07C,  
Horseshoe Farms, Residential Two (R2) to Local Commercial Conditional District (LC-CD)  
Sign-up Sheet

**Please Print**

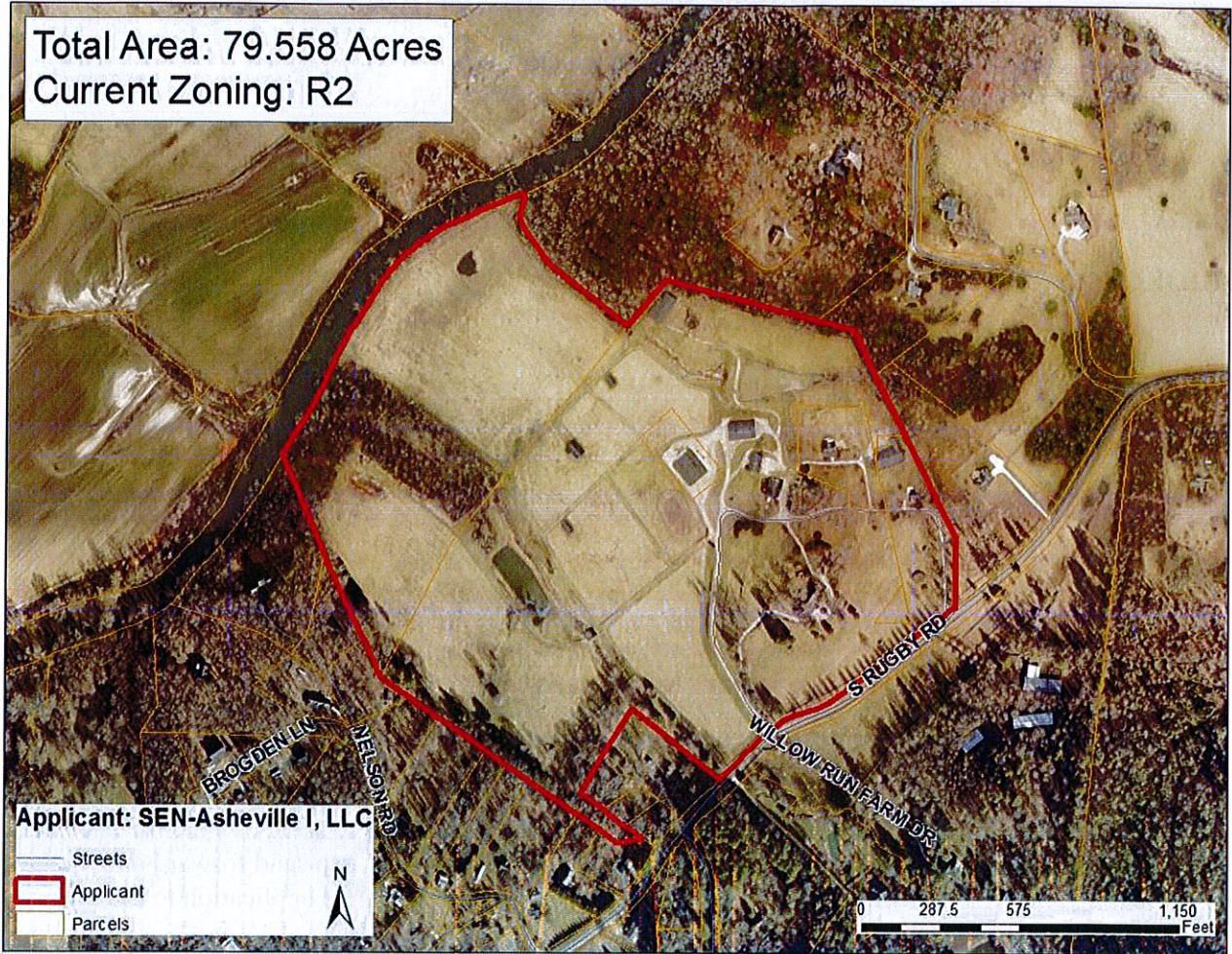
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*CANCELLED*

Total Area: 79.558 Acres  
Current Zoning: R2



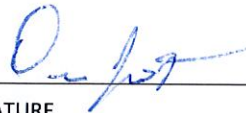
# PUBLIC COMMENT SIGNUP SHEET

## MARCH 4, 2019


Pursuant to N.C. Gen. Stat. §153A-52.1, the Henderson County welcomes public comment at its meetings. Please note that each speaker is limited to three (3) minutes, unless a different time limit is announced. Also, the Board may adopt rules limiting the number of persons speaking taking the same position on a given issue, and other rules regarding the maintenance of good order.

Each speaker should be aware and by their signatures hereto they agree that their comments may be recorded (by audio-visual recordings, photography or other means), and may be (but are not required to be) broadcast by the County as a part of the broadcast of this meeting, or as a part of the County's programming on its local video channel(s). By their signature they further agree that Henderson County is and will be the sole owner of all rights in and to such programming. The undersigned hereby indemnifies Henderson County, its employees and agents, against any and all claims, damages, liabilities, costs and expenses arising out of the use of the undersigned's images and words in connection therewith.

1. Dennis Justice  
**PRINTED** NAME  
31 Tamis Ln.  
Fletcher NC 28732  
MAILING ADDRESS

  
SIGNATURE  
Emergency Management / Sports betting bills - local IMPACT  
Topic

2. *Handwritten*  
Phil Rasmussen  
**PRINTED** NAME  
123 Haywood Park Dr  
Hendersonville 28791  
MAILING ADDRESS

  
SIGNATURE  
191  
Topic

3. Bill Hogan  
**PRINTED** NAME  
290 Ridgeway Hill Dr  
Hendersonville NC 28791  
MAILING ADDRESS

NC 191  
SIGNATURE  
Topic

4. \_\_\_\_\_  
**PRINTED** NAME  
\_\_\_\_\_  
MAILING ADDRESS

\_\_\_\_\_  
SIGNATURE  
Topic

## **7 Tips for When Road Construction Affects Your Business**

<https://www.inc.com/guides/2010/10/seven-tips-for-when-road-construction-affects-your-business.html>

## **Advantages and Disadvantages of Road Transport**

<http://www.yourarticlelibrary.com/geography/transportation/advantages-and-disadvantages-of-road-transport/42135>

## **America in 2015**

<http://uli.org/wp-content/uploads/ULI-Documents/America-in-2015.pdf>

## **Does building more roads create more traffic?**

<https://www.citymetric.com/transport/does-building-more-roads-create-more-traffic-934>

## **Effects of Roads on Ecological Conditions**

<https://www.nap.edu/read/11535/chapter/5>

## **Evaluation of Lane Reduction, Federal Highway Administration**

<https://www.fhwa.dot.gov/publications/research/safety/10053/index.cfm>

## **Handbook of Road Safety Measures**

[http://www.masseguridadvial.eu/FILES/Road\\_Safety\\_Measures\\_EN.pdf](http://www.masseguridadvial.eu/FILES/Road_Safety_Measures_EN.pdf)

## **Highway 29: A Corridor Study, Greer, SC**

[https://southcarolina.uli.org/wp-content/uploads/sites/48/2012/07/Hwy29-Final\\_033115.pdf](https://southcarolina.uli.org/wp-content/uploads/sites/48/2012/07/Hwy29-Final_033115.pdf)

## **How America's Most Important Highway Fails**

<https://www.wsj.com/graphics/how-americas-most-important-highway-fails/> (requires sign-in)

## **No More Freeway Expansions (links to letters)**

<https://nomorefreewayspx.com/about/>

## **On a Paradox of Traffic Planning,**

Dietrich Braess. Transportation Science 39 (2005): 446-450

<http://www.uvm.edu/pdodds/files/papers/others/2005/braess2005a.pdf>

## **Road Congestion**

[http://www.economicsonline.co.uk/Market\\_failures/Road\\_congestion.html](http://www.economicsonline.co.uk/Market_failures/Road_congestion.html)

## **Road pricing most effective in reducing vehicle emissions**

<https://m.phys.org/news/2017-10-road-pricing-effective-vehicle-emissions.html>

## **ROADEX project**

<http://www.roadex.org/wp-content/uploads/2014/01/ROADEX-Road-Widening-Guidelines-2012.pdf>

## **Speed**

<https://www.parisschoolofeconomics.eu/IMG/pdf/Durantou-RUES-june2012.pdf>

## **The Effects of Road Widening"**

<https://prezi.com/yan98lwnk4je/the-effects-of-road-widening/>

**The end of the road? Challenging the road-building consensus**

<https://www.cpre.org.uk/resources/transport/roads/item/4543-the-end-of-the-road-challenging-the-road-building-consensus>

**The end of the Road? Challenging the road-building consensus**

<https://www.cpre.org.uk/resources/transport/roads/item/download/4851>

**The Fundamental Law of Road Congestion: Evidence from US Cities.**

Gilles Duranton (University of Pennsylvania), and Matthew A. Turner (University of Toronto. 2009/2011. National Bureau of Economic Research, Cambridge, MA.

[https://bwl.univie.ac.at/fileadmin/user\\_upload/lehrstuhl\\_ind\\_en\\_uw/lehre/ws1213/SE\\_Energy\\_WS12\\_13/The\\_Fundamental\\_Law\\_of\\_Road\\_Congestion\\_Evidence\\_from\\_US\\_Cities.pdf](https://bwl.univie.ac.at/fileadmin/user_upload/lehrstuhl_ind_en_uw/lehre/ws1213/SE_Energy_WS12_13/The_Fundamental_Law_of_Road_Congestion_Evidence_from_US_Cities.pdf)

**The Futility of Widening, Round 2**

<https://www.strongtowns.org/journal/2018/2/21/the-futility-of-widening-round-2>

**The Future of Commuting**

<https://www.vox.com/2015/4/29/8513699/future-of-commuting>

**The Impact of Road Projects in England**

<http://www.cpre.org.uk/resources/transport/roads/item/download/4848>

**The Impact of Road Widening on the Local Economy**

<https://domz60.wordpress.com/2013/08/13/the-impact-of-road-widening-on-the-local-economy/>

**To stop a road widening project, be persistent**

<https://www.strongtowns.org/journal/2017/4/6/road-widening-stop-toledo>

**Traffic: Why It's Getting Worse, What Government Can Do**

<https://www.brookings.edu/research/traffic-why-its-getting-worse-what-government-can-do/>

**Traffic Safety Effects of Narrow 2+1 Roads**

<https://www.diva-portal.org/smash/get/diva2:920845/FULLTEXT01.pdf>

**Transportation equity: Why peak period road pricing is fair**

<http://cityobservatory.org/transportation-equity/>

**Was \$1.6 Billion Worth It?**

<https://www.nytimes.com/2016/12/20/us/los-angeles-drivers-on-the-405-ask-was-1-6-billion-worth-it.html>

**Why road widening is a bad idea**

<http://bengaluru.citizenmatters.in/2224-audacity-of-hope-to-solve-road-problems-2224>

**The Impact of Narrow Lanes on Safety of the Arterial Roads**

<http://tsite.org/wp-content/uploads/2012/11/Presentation-2-Hyeon-sup-Lim-%E2%80%93-The-Impact-of-Narrow-Lanes-on-the-Safety-of-Arterial-Roads.pdf>

**Comparison of Crashes on Rural Two-lane and Four-lane Highways in Texas**

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.600.7283&rep=rep1&type=pdf>

## Types of Three and Four Lane Roads

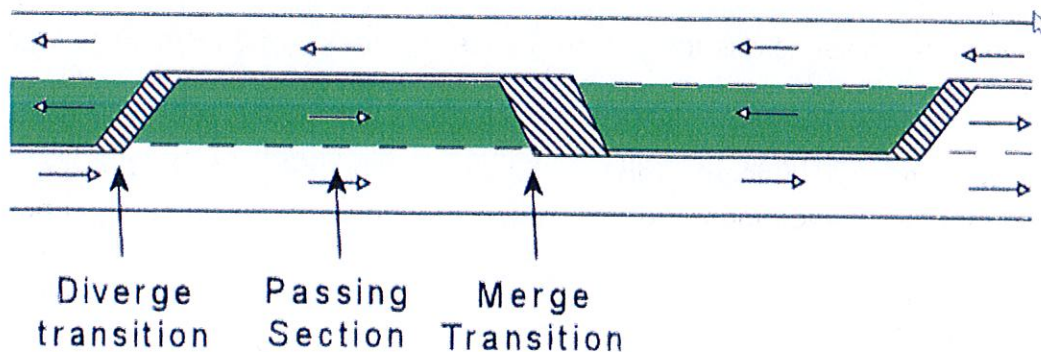
There are many different types of roads in North Carolina. Unfortunately NCDOT tends to exaggerate perditions for traffic flow by thinking that traffic flow increases exponentially in a straight line. This has never been the case. NCDOT also does not figure into their designs the concept of "if you built it, they will come." We see this over and over again throughout the state.

For example I-85 through Charlotte is crowded and very congested. NCDOT built by-passes to the north (to Huntersville) and south (to Pineville) of Charlotte in an attempt to relieve the congestion. Initially it did do that, but today, these by-passes are just as crowded as I-85. The concept is akin to building a couple of storage shelves, only to discover later that the shelves are full and you need more shelves. In physics this is referred to as **horror vacui** or **plenism**, commonly stated as "nature abhors a vacuum."

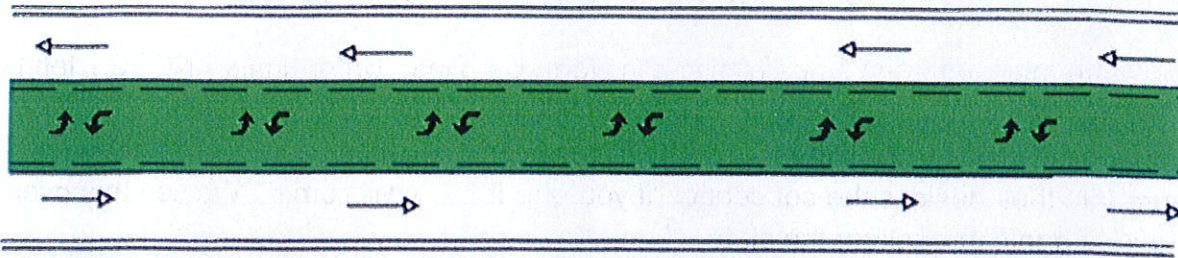
Another example is when NCDOT widened NC-51 between Matthews, NC and Pineville, NC, and South Blvd between Pineville, and Charlotte from 2-lane roads to 4-lane roads. Not only did traffic increase to fill the "road vacuum" but the seriousness of accidents, injury and property damage significantly increased.

There are many international, federal government and state government studies which conclude that it is safer, less costly to build and maintain a 2-lane road that has been expanded to a 3-lane road than to expand that same 2-lane road to 4 lanes.

In Europe, 4-lane+ super highways are used for travel between **large** cities. Elsewhere however, and more prevalent, are the 2+1 roads that connect small towns and are used in mountainous areas. To some degree, 2+1 roads have been built in the US, but more often, especially in suburban and urban areas, the 3-lane concept prevails. According to international, federal and state studies, both types of these roadways are safer than 4-lane highways. Following are diagrams of various 3 and 4 lane road configurations.



2+1 lanes.



**3-lane:** If a capacity expansion of an existing two-lane road is desired, a three-lane cross section can provide similar operational benefits to a four-lane cross section while maintaining the safety benefits of the three-lane configuration

Improving safety is a top priority for the U.S. Department of Transportation, and the Federal Highway Administration (FHWA) remains committed to reducing highway fatalities and serious injuries on our Nation's roadways through the use of proven safety countermeasures, including Road Diets.

Four-lane, undivided highways experience a number of crash types as traffic volumes increase, including:

- Rear-end and sideswipe crashes caused by speed differential between vehicles;
- Sideswipe crashes caused by frequent and sudden lane changing between two through lanes;
- Rear-end crashes caused by left-turning vehicles stopped in the inside travel lane;
- Left-turn crashes caused by mainline left-turning motorists feeling pressure to depart the shared through/left lane by following motorists and making a poor gap judgment;
- Angle crashes caused by side street traffic crossing four lanes to make a through movement across an intersection, or turning left across two lanes;
- Bicycle crashes due to a lack of available space for bicyclists to ride comfortably; and
- Pedestrian crashes due to the high number of lanes for pedestrians to cross with no refuge.

As traffic volumes and turning movements (at intersections and driveways) increase, more and more four-lane, undivided roadways experience the above safety concerns. Additionally, as active transportation increases, communities desire more livable spaces, pedestrian and bicycle facilities, and transit options. One solution that benefits all modes is a Road Diet.

## Why a 3-lane Road?

3-lane roads have the potential to improve safety, convenience, and quality of life for all road users. They can be relatively low cost if planned in conjunction with reconstruction or simple overlay projects.

For roads with appropriate traffic volumes, there is strong research support for achieving safety benefits through three-lane cross sections with TWLTLs. Operational and design changes associated with 3-lanes promotes safety that include reduced vehicle speeds, reduced vehicle-pedestrian, -bicycle, and -vehicle conflicts.

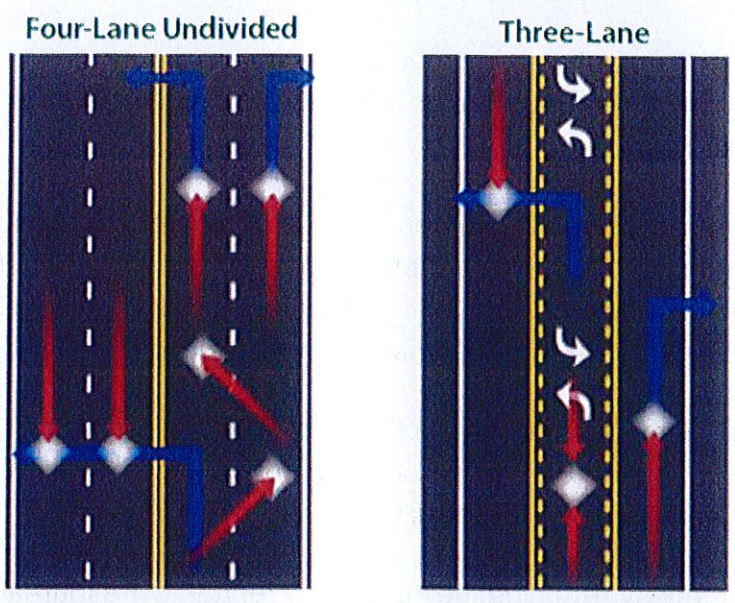
Studies indicate a 19 to 47 percent reduction in overall crashes when a 3-lane road is installed instead of a 4-lane road as well as a decrease in crashes involving drivers under 35 years of age and over 65 years of age.

3-lanes improve safety by reducing the speed differential. On a four-lane road, vehicle speeds can vary between travel lanes, and drivers frequently slow or change lanes due to slower or stopped vehicles (e.g., vehicles stopped in the left lane waiting to turn left). Drivers may also weave in and out of the traffic lanes at high speeds. In contrast, on three-lane roads with TWLTLs the vehicle speed differential is limited by the speed of the lead vehicle in the through lane, and through vehicles are separated from left-turning vehicles. Thus, 3-lanes can reduce the number and severity of vehicle-to-vehicle crashes. Reducing operating speed decreases crash severity when crashes do occur.

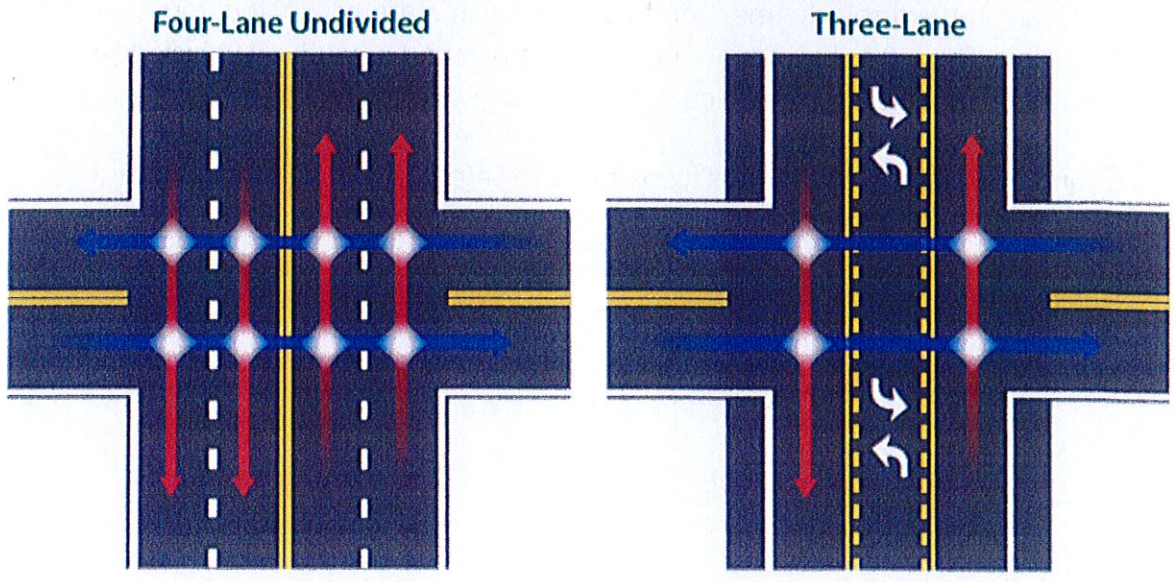
The following drawings illustrate conflict points and safety issues related to turning movements for four-lane roadways versus three-lane cross sections.



### Mid-Block Conflict Points for Four-Lane Roadway and Three-Lane Cross Section

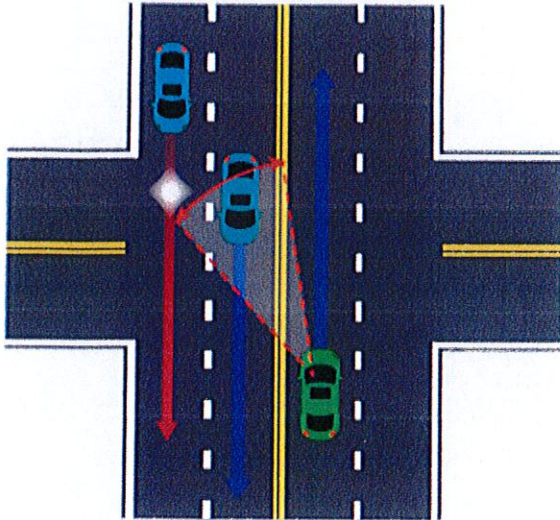


### Crossing and Through Traffic Conflict Points at Intersections for a Four-Lane Undivided Roadway and a Three-Lane Cross Section

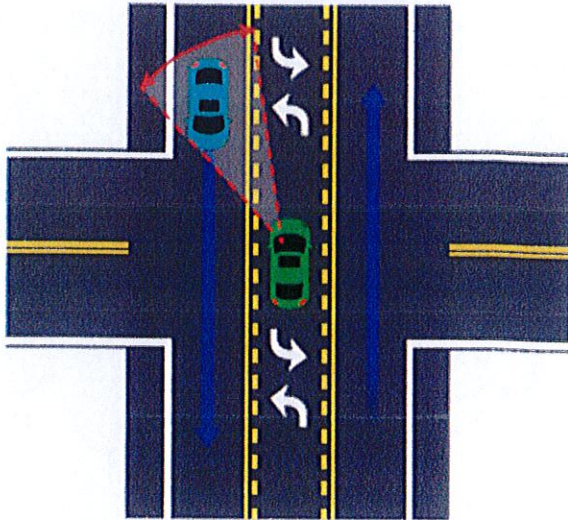


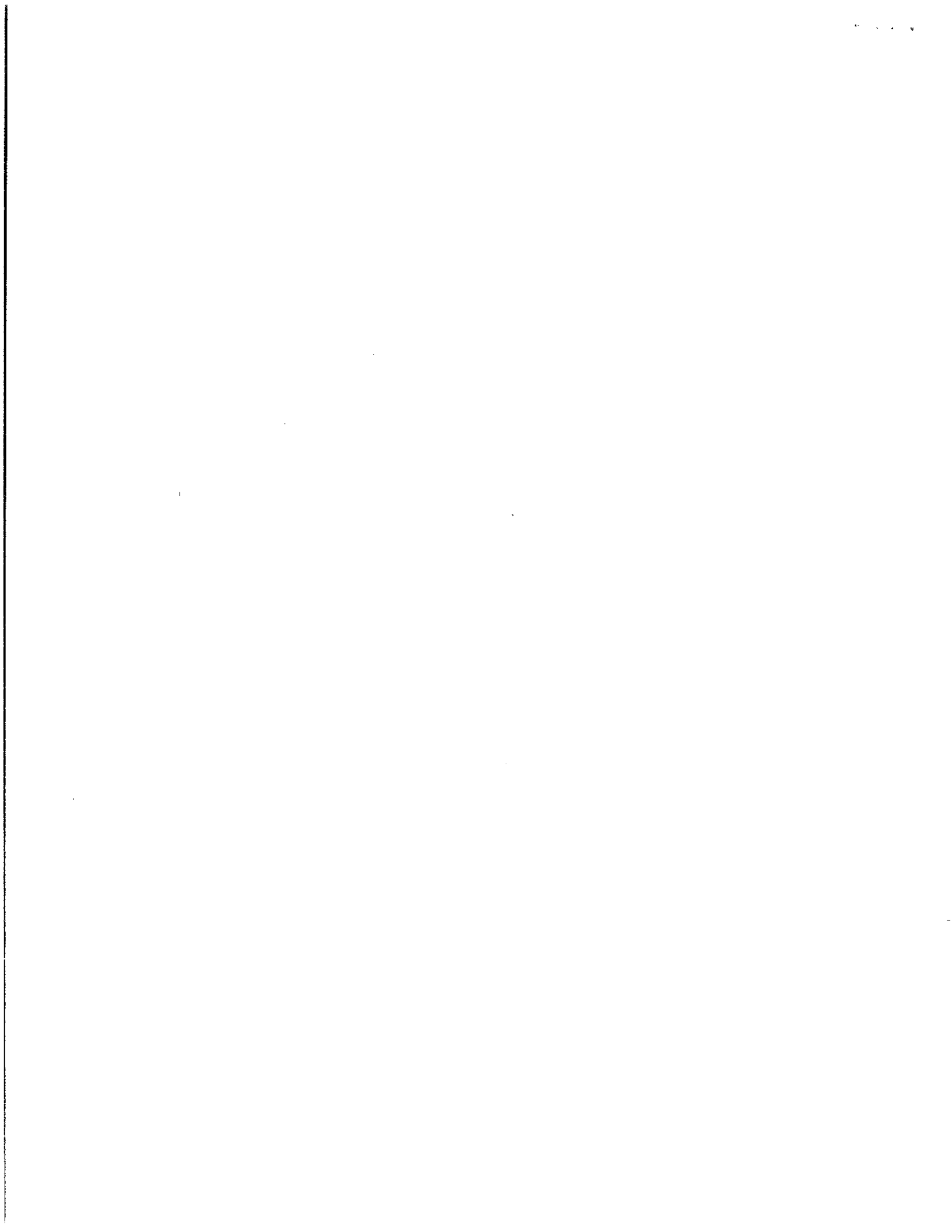
# Major-Street Left-Turn Sight Distance for Four-Lane Undivided Roadway and Three-Lane Cross Section

**Four-Lane Undivided**  
(Outside Lane Traffic Hidden by  
Inside Lane Vehicle)



**Three-Lane**  
(No Hidden Vehicles)





## **Presentation to County Commissioners**

Good morning. My name is Phil Rasmussen and I live off of 191 in Haywood Park Estates.

Many people have come before you to discuss NCDOT's R2588B project to widen 191 or Haywood Rd from two lanes to 4 lanes with a median down the center.

I have done my own study regarding this project. DOT states in its own publications that the 191 widening is for safety purposes. However, the reality is that it was designed as an extension of the Balfour Parkway project that has since been cancelled. This alone should cause county leaders, the MPO and DOT to question the legitimacy and need for the stated project.

We, the 191 Alliance, a group of concerned citizens and residents along 191, want you, our county leadership, to consider the following:

1. At the Mountain Rd end of this project, 191, as a 4-lane highway, will terminate into the current 2-lane residential street, thus creating increased congestion at a major intersection.
2. That DOT states that there will be increased traffic on 191. As a 4-lane highway, drivers automatically increase speed and decrease their attention to their driving skills. Thus accidents will increase and cause greater property damage and injury.
3. That the 4-lane 191 highway will border two schools that are located less than 1/4 mile apart. The resulting increased traffic and speed will create greater risk of injury to children for pre-school and after-school activities such as commuting

to and from school, and athletic activities.

4. That international countries and organizations, our own Federal government, and many state governments have concluded that 3-lane or 2+1lane roads are much safer and less costly to build and maintain when compared to 4-lane highways.
5. Widen 191 to 4-lanes will not provide any increased safety value and very limited economic value to the communities along 191. Less than 4 businesses along 191 will directly benefit from this project.
6. That the planning and designing of this DOT project was done without community input and thus does not take into consideration community concerns, wants, and needs.
7. The increased traffic this expansion will cause, will create irreversible harm to our environment, wildlife, and flora
8. A divided 4-lane highway will not allow EMS, fire, and law enforcement direct access to many subdivisions along 191. This lack of access will increase response times thus putting life and property at greater risk, and increasing the possibility of law suits due to death or property loss.

Even with the intersections at the two schools, the increased traffic will also impede emergency personnel when responding to 911 calls at the schools.

9. In closing, we ask that our county leadership revoke the NCDOT R-2588B plan and replace it with a 3-lane expansion plan.

# The Widening of 191 by NCDOT R-2588B

## An analysis of the project and what it accomplishes

### Introduction

Do we really know what the truth is for widening NC-191 to four lanes? Most of us have no idea and if you ask NCDOT they will state that it is for safety reasons. If you mention the Balfour Parkway project the answer will be to reduce traffic on Four Seasons Blvd (Hwy-64) leading into Hendersonville.

Since the Balfour Parkway project is officially off the NCDOT State Transportation Improvement Program (STIP) website the question is why widen 191?

Several members of the 191 Alliance have studied both the Balfour and 191 projects as they relate to safety, traffic flow, and the impact these projects will/would have on various communities. The information that relates to these projects has been difficult to come by. State and local governments are supposed to be transparent, but the reality is that we won't get the right answer if we don't know how to ask the "right" question in the "right" way of the "right" person. Even then, we be stonewalled or may not get a right answer.

For example, on several occasions I have asked NCDOT for a copy of the Environmental Impact statement for the 191 project and to date have not received even a response acknowledging my request. In another request to state government about blue line creeks and wetlands with regard to 191, I got passed around to 4 departments and finally to the Army Corp of Engineers. The problem, as I see it, is that state employees are so much into their own little work niche, that they either cannot or do not know the "big" picture of either their own department or related departments within government.

### 1. A premise for 4-lane highways

- A "global" perspective

Across the middle of North Carolina from I-95 we can drive westward through the state on I-40. At some point, probably back in the 1970's (conjecture) a decision was made that a southern route was needed that would connect the larger towns and cities south of I-40. As a result, NCDOT turned NC-49 from a 2-lane country road into a 4-lane highway between Raleigh and Charlotte. This project was broken into several segments that were independently built spanning a period of around 20 years. While these projects were being built, there was another project to connect Brevard to Cherokee, and another project to turn NC-280 into a 4-lane road between Brevard, via an I-26 overpass, to Hwy 25. This year NCDOT is widening the 2-lane bypass around downtown Brevard to four lanes.

When the Brevard bypass is completed, one can essentially drive from

Raleigh to Cherokee on a series of 4-8 lane highways (Raleigh-Charlotte on NC-49; Charlotte -Shelby on I-85;Shelby to I-26 on NC-74; I-26 to Airport Rd [280] on I-26; Airport Rd to Brevard on NC-280; Brevard to Cherokee on Cherokee Highway). If you ask NCDOT if this was planned a long time ago, they will probably answer NO. But if you go back in the state's legislative notes you will be able to find the information presented in a number of ways.

For years there has been a long term movement to make Western North Carolina more accessible to business and tourism by developing four lane highway systems. This movement is based on the "if you build it, they will come" concept.

While government (local, county, and state) view increased business and tourism as an addition to the tax base, their viewpoints are very short sighted. The attraction of Western North Carolina includes the area's rural lifestyle and scenic splendor. Unfortunately, after the landscape is leveled and paved and the work crews have packed up, such road widening also attracts residential and business development with hotels, restaurants and other small urban businesses built along the "improved" highway. One government official put it this way, "We're hoping that the positives will outweigh the negatives." Not a very positive statement for any community that will be exposed to 4-lane development.

Without supporting data, government officials are quick to point out the reasons that making roads wider by adding lanes will:

- New lanes or a new road can improve traffic flow through the area.
- Additional lanes can increase the person-carrying capacity of the roadway. A new road can draw vehicles away from nearby congested roads and improve the flow on the surrounding network.
- New roads can increase mobility in the area by providing more reliable access to areas that were difficult to reach with the existing roadway system. The road can also provide additional route options.
- New lanes and roads can encourage new or re-development of surrounding lands, stimulating economic growth. As more drivers use a particular route, they may be more apt to utilize the businesses or homes in the area, possibly strengthening the economy along a particular corridor.

Note that the key word here is "CAN." There is no supporting data for any of the above statements.

- A more local perspective

Let us consider just one fact -- The NCDOT R-2588B project deals with only that portion of 191 between Mountain Rd and Boylston Highway (280). This is a about a 4 mile long strip of roadway that is bordered by subdivisions, farm land,

schools, and a limited number of businesses (the majority nearer to Boylston Hwy [11+ businesses] than Mountain Rd. [just 6 businesses]).

Assuming that 191 is widened to 4-lanes, at Mountain Rd it will feed into two 2-lane roads, while at Boylston Hwy it will feed into a 4-lane highway. Near the Mountain Rd end, it will go past two public schools, 7 subdivisions, and 6 small businesses. At the other end (280) it will serve the transportation needs primarily of an international company, government agencies and utility companies. All businesses and agencies at this end of 191 already have access to a 4-lane highway (280) and to I-26 via 280. Also at the Mills River end it will pass 3 only subdivisions.

**NCDOT cites safety as the issue for this project.**

## **2. Background**

Before an NCDOT project is started in Henderson County, NC, it goes through several development steps starting first with a recommendation from the Traffic Advisory Committee (a county commissioner's sub-committee)(TAC) to the County Commissioners. Upon acceptance of the TAC recommendation, the commissioners then present it to the French Broad Metropolitan Planning Organization (MPO).

According to several sources, an MPO is. . .

"A Metropolitan Planning Organization (MPO) is a federally required transportation planning body comprised of elected and appointed officials representing local, state and federal governments or agencies having interest or responsibility in transportation planning and programming. An MPO is responsible for the development of a Long Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and a Unified Planning Work Program (UPWP) for its metropolitan planning area. The adoption of these documents is a prerequisite for the receipt of both federal transit and federal highway funding.

The MPO discusses and votes on multi-modal transportation issues of region-wide significance, and decides which local transportation projects should be implemented. One of the ways in which this is accomplished is through adoption of a Long-Range Transportation Plan which is updated routinely. Also, based on the needs identified through the long range planning process, the MPO develops and adopts a priority list of projects for implementation each year. This annual process is called the UPWP."

The FBRMPO consists of 21 members (county, city, and town representatives) of which only one (1) (Henderson County) supposedly represents the 191 community..



When the MPO approves a project, it is then submitted to NCDOT for design and implementation. Any changes to the project must go through the county commissioners, to the MPO which then directs NCDOT to make the appropriate changes.

According to the NCDOT R-2588B plans, 191 will be turned into a 4-lane highway from a 2-lane rural road. NCDOT cites **SAFETY** as the issue for this widening project. However, to make such a statement, NCDOT created traffic projections that no longer apply to 191 because of the cancellation of the Balfour project. These projections by NCDOT also never reflected the reality of current traffic or future anticipated traffic. They made a straight line projection to 2030 which is not consistent with traffic growth through the country.

According to many international, federal, and state studies and publications, a 4-lane widening of a 2-lane road is far more dangerous than a 3-lane widening of the road.

Additionally we contend that the project as it now stands is a waste of current taxpayer money and will cost taxpayers more future taxes and other expenditures for road upkeep and maintenance, and environmental protection, and school safety.

### **Benefits**

Many studies have cited pros and cons for road widening. While the pros are usually emphasized to government or other involved entities, the consequences of road widening are usually glossed over by those presenting **and** receiving the information.

#### 1. Overall

- 1.1. Allows large businesses such as Van Wingerdan International, PSNC, and others to drive large trucks down to Mountain Road through 2 school zones
- 1.2. Allows only businesses between Ingles and 280 to make left hand turns.
- 1.3. Allows faster ingress and egress for high school students and middle school parents and students, many of whom live closer to other schools
- 1.4. Allows for higher traffic volume
- 1.5. Allows drivers to pass slower moving vehicles

#### 2. Travel benefits

##### 2.1. Travel time benefits

The widening of 191 to either 3 or 4 lanes will not provide any significant travel time benefit to drivers. The speed limits will remain the same. The only benefit of the widening will be that vehicles currently turning left will have a middle turn lane for a 3 lane road and reduced left turn capability for the area south of School House Rd. The reduced capability however is negated by motorists having to make u-turns at various intersections, which will delay traffic flow even more.

##### 2.2. Vehicle operating benefits

There are no significant vehicle operating cost benefits with R-2588B. In a 4-mile stretch of roadway, the traffic bottlenecks are at the traffic lights (the two

schools and intersections). A widening of 191 will not alleviate these bottlenecks and will probably increase fuel consumption as a result of motorists who need to make u-turns.

### 2.3. Safety benefits

NCDOT cites increased safety with the 4-lane widening of 191. Problematic for NCDOT along with the MPO is that various international, federal, and state publications vividly state that 3-lane widening of roadways is far safer than 4-lanes. With safety being cited as the major reason for widening 191, it is important to explore synergistic solutions with other societal goals and priorities.

191 Alliance believes that part of driving safely is psychological. With a 3-lane road where the center lane acts as a combined turn and passing lane, and median, that drivers will be more cautious when passing slower vehicles. On the other hand, a 4-lane road, regardless of established speed limits, encourages faster vehicular speeds, increased recklessness, and increased inattention to driving performance, resulting in more serious accidents.

Currently most accidents along 191 are rear-end collisions with relatively minor damage and injuries. A 4-lane expansion will result in significantly increased damage and life threatening injuries. While rear-end collisions will probably be reduced, off road accidents and car swiping will more likely increase.

In addition to redesigning 191 from a 4-lane highway to 3-lanes, the money allocated for the project could be better spent by creating right-hand turn lanes into subdivisions and at intersections, and by creating merge lanes for travelers exiting the subdivisions or turning onto 191. Creating these lanes will keep traffic moving and more efficiently.

### 3. Business benefits

The area east of N. Rugby is primarily residential with 6 small businesses, the majority of which are located near the Mountain Rd intersection. The R-2588B plans for widening 191 call for a median (grass and concrete) for that portion of 191 east of N Rugby. These businesses will be adversely affected by reducing customer access to them.

On the other hand, that portion of the widening project near 280 (Boylston Hwy) will not have these barriers and will allow easy access for "company" vehicles.

The businesses located on the eastern portion of 191 rely almost exclusively on walk-in customers. On the western end of 191, the small businesses likewise rely on walk-in customers, however the large business along with utilities and government facilities have very little walk-in traffic. Yet the western end of 191 allows for greater access to all of these facilities, including subdivisions.

## **Disadvantages**

Many international, federal and state studies have been done with regard to widening roads to four lanes.

The safety rationale that NCDOT puts forth for widening 191 to 4-lanes is perhaps the most common reason given for why a road "must" be widened. Public policy makers, when confronted with the "safety" justification, are forced into an uncomfortable position when a decision must be made to widen or not widen a road: Either agree to the widening, or take a position that seems to suggest an uncaring attitude toward public safety. Thus it comes as no surprise that a large number of decision-makers (county commissioners, and MPO members) are persuaded solely on the basis of the public safety argument.

Using "safety," as the issue for widening 191, lulls us into a false sense of security. We increasingly see motorists driving at high speeds with one hand, while multi-tasking with the other. The result of which is predictable – safety declines and driving skills atrophy.

Aside from safety there are many other disadvantages to widening 191 to 4-lanes. These include:

1. Many subdivisions and houses along 191 will not be able to make left hand turns. Residents will have to make right-hand turns, go to an intersection and make a u-turn in order to go left. At the same time, emergency vehicles and others will have to follow the same process in most cases. If the R-2588B plan is followed, this will mean that the intersections will be too small to accommodate large vehicles or those with trailers such as fire trucks, construction personnel, and residents hauling items in trailers. Alternate routes will have to be taken or else the vehicles will have to use a series of backup-pull forward movements in order to make the u-turn. Regardless u-turns are not a very safe traffic movement.
2. Small business between Rugby Rd and Mountain Rd. will not be able to make left hand turns.
3. If you want to make a left hand turn you have to drive to an appropriate intersection and make a u-turn, thus presenting yourself as a safety risk.
4. In spite of speed limits set to 45 mph, drivers will go faster.
5. Accidents will be more severe due to higher speed and increased inattention to driving.
6. Road maintenance will increase and create more driving problems.
7. At the Mountain Rd Intersection, a 4-lane 191 will suddenly become a 2-lane 191, creating increased traffic congestion.
8. For many subdivisions and homeowners, emergency response will take longer because EMT/Fire-Rescue/Law Enforcement will not be able to make left-hand turns off of 191.
9. Small businesses on the east end of 191 will not have any benefit due to the 4-lane widening.

10. Drivers needing to make right-hand turns into subdivisions or businesses will continue to slow traffic down until the turn is completed.
11. Taxes will go up for maintenance, snow removal and additional law enforcement requirements.
12. No significant time savings will be made if 191 is turned into a 4-lane highway. In fact those services that serve the various communities along 191 will experience more travel time because of having to make u-turns, thus increasing homeowner and business expenses.
13. The increased traffic that the 191 widening will bring, will also increase air, water, and land pollution, thus increasing taxpayer costs.
14. Wildlife and flora along the 191 corridor will be adversely affected as well.

### **Conclusions**

We believe that the NCDOT R-2588B should be redesigned. What is egregious is that all government parties, from the Transportation Advisory Committee (TAC), all the way up to and including the NCDOT, never should have approved R-2588B since the impact of NCDOT W-5506 (the school safety project) is not known and will not be known for several years.. The R-2588B project is akin to building an long range indoor firing range when all real world long distance shooting is done outdoors. There are many factors that affect long range shooting that cannot be replicated indoors. In other words, a waste of taxpayer money for something that may not even be useful in the end.

The need for a divided 4-lane widening of Hwy 191 was based upon the connection to the Balfour Parkway. The design needed without Balfour has not been determined since the NCDOT has chosen to proceed with the unstated goal of preparing for the return of Balfour with a new name and more clever salesmanship.

As previously mentioned, there are many international, federal, and state studies that state 3-lane road widening is considerably safer than 4-lane expansions. Some of the safety benefits of 3-lanes vs. 4-lanes include:

1. Average vehicle speeds are reduced, there is less variability in vehicle speeds, and there is less speeding.
2. Significant reduction in what engineers call "conflict" points, and an increase in "sight distance" for turning and crossing traffic on a 3-lane versus 4-lane road.
3. Because there are fewer conflict points and increased sight distances, fewer decisions and judgments have to be made to enter or cross a 3-lane road.
4. 3-lane roads reduce the street-crossing distance for pedestrians. Compared to a 4-lane road, a 3-lane can create "refuge" areas where a pedestrian can safely wait until there is a safe gap in traffic before crossing the other half of the street. A refuge is also created for motorists with 3-lanes.
5. Traffic and injury accidents are significantly reduced with 3-lanes (33-62% reduction depending upon study).
6. Aggressive driving and road rage is significantly reduced (35%)

The International Road Assessment Program (IRAP) is an umbrella organization for assessing roads worldwide. With support from the UN, WHO, Fund for Global Health and a wide range of partners around the world, IRAP has established the 3-star Coalition – a group that advocates for the design and construction of safer roads. The coalition has developed minimum standards for road construction. As part of the standards IRAP has developed the Star Rating for Design (SR4D) tool for assessing the safety of roadways prior to and post construction. To my knowledge NCDOT has not done a Star analysis, which is free and is considered the gold standard in road safety analysis.

The World Road Association has classified traffic accidents according to income levels. Their findings are that low income households bare a disproportionate number and cost for accidents compared to middle or high income households. The majority of residents along 191 are middle to high income households. Widening 191, and its eventual linking to other 4-lane roads, will increase the number of low income drivers along the 191 corridor. In addition to a higher level of accidents among low income households, traffic accidents are appreciably higher for tourists. Currently there is less tourist traffic on 191 than compared to 4-lane roads in the region. Widening 191 will likely increase tourist traffic, especially during peak tourism events in the county.

The association has developed a “Safe System” approach to road safety. The system includes recognition that:

- people have limitations and are fallible (i.e. they make mistakes);
- there are known physical limits for energy exchange in crashes, beyond which the human body is seriously injured;
- a well-designed system can ensure that the physical limits of the human body are not exceeded in a crash;
- the focus is on the long-term elimination of fatalities and serious injury;
- there is a shared responsibility for safe travel outcomes between ‘system designers’ (those who influence the level of safety experienced on the road network) and the road user.

The system has four key design elements and supporting elements. The design elements are:

- Safe roads and roadsides – that are predictable and forgiving of mistakes. They are self-explaining in that their design encourages safe travel speeds and help avoid errors.
- Safe speeds – travel speeds that suit the function and level of safety of the road. People understand and comply with the speed limits and drive to the conditions.
- Safe vehicles – that prevent crashes and protect road users, including occupants, pedestrians and cyclists, in the event of a crash.
- Safe road users – road users that are alert and unimpaired, and who comply with road rules. They take steps to improve safety, and demand and expect safety improvements.

The supporting elements include:

- emergency medical management for post-crash care;
- control of admittance (entry and exit) of drivers to/from the road;
- effective legislation and systems, enforcement and justice system support;
- educating and informing the public.

When viewed from this perspective of road safety, the county commissioners, FBRMPO, and NCDOT have not provided any support for controlling the majority of design elements, and no support for the supporting elements.

In designing for reduction of accidents, the association states that adding an additional lane can reduce casualties by 25-40% by reducing head on and rear-end accidents. Additionally, lane widening can result in the same reduction by reducing head on and motorcycle accidents.

The Highway Safety Information Systems (HSIS), of which North Carolina is a member, is a multi-State safety data base that contains accident, roadway inventory, and traffic volume data. In its analysis of 2- and four-lanes roadways, only California had sufficient data for analyzing four-lane undivided roadways. Consequently North Carolina has probably not developed a model for four-lane undivided analysis, and thus the current 191 plan is a divided plan. Therefore this points to an incomplete analysis of ALL safety possibilities for 191.

The 191 Alliance believes that NCDOT may also not have sufficient data to develop a 3-lane safety analysis in addition to a 4-lane undivided analysis.

NCDOT classifies 191 as a rural highway and also views the end result of the R-2588B widening as a rural highway. The chart below is the culmination of several sources defining urban, suburban and rural environments.

Urban	Suburban	Rural
A human settlement with high population density	A form of urban settlement with medium population density	A human settlement with a low population density
Exclusively man-made environment	A combination of built areas and green spaces	Mainly a natural environment
Has paved roads, a business center, and facilities as diverse as the population and its needs	Has paved roads and it is only a residential area	Sometimes has dirt roads that connect neighboring properties
Offers numerous employment options	Offers access to city jobs through commute as well as some local jobs	Has limited job opportunities as most people live off the land
Thrives on business development	Thrives on peoples' need for better living conditions	Thrives on agriculture

Currently 191 is a rural roadway. Widening it to four lanes with a median will eventually bring growth and development, turning our rural area into a suburban area. As a consequence of such growth and development the following incidents will permanently take place:

1. Wildlife habitats will be adversely affected and various wildlife species will disappear.
2. Increased vehicular traffic will result in increased air pollution. No known study has been done NCDOT to ascertain the impact of vehicular emissions in the 191 valley.
3. Water pollution will increase due to road increased road runoff. About One-half of 191 has blue line streams running parallel to it. 191 also crosses the French Broad River. From the French Broad River bridge to 280, 191 runs across the Mills River Watershed.
4. Other environmental pollution will increase simply because, according to NCDOT, the number of vehicles traveling on 191 will increase.
5. Traffic accidents will increase and be more severe. Vehicular deaths will also increase. This is a common result of turning 2-lane country roads into 4-lane highways across North Carolina.
6. There will be longer response times for EMS, law enforcement and fire departments as a result of having to make u-turns into housing developments instead of making direct left-hand turns into them. As a result, it is conceivable

that Henderson County, FBRMPO, NCDOT and/or the State of North Carolina could be sued as contributing agents to a loss of life and/or property.

In our opinion, the County Commissioners should revoke the NCDOT R-2588B plan and project, and replace it with a safer 3-lane expansion plan for NC-191.

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# HENDERSON COUNTY BOARD OF COMMISSIONERS

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## RESOLUTION

**WHEREAS,** both the North Carolina Senate and the North Carolina House of Representatives have legislation under consideration to assist North Carolina County Governments with the financing of local K-12 school capital projects; and

**WHEREAS,** the distribution of funding, whichever proposal is ultimately signed into law by the Governor of the State of North Carolina, is of critical concern to the Board of County Commissioners of Henderson County North Carolina and the taxpaying citizens we represent; and

**WHEREAS,** funding formulas for distribution that have been proposed greatly diminish the amount of funding that would be available to the Henderson County Board of Commissioners and our tax paying citizens; and

**WHEREAS,** legislation should be based upon the number of students enrolled in each county school system, and reward local efforts to fulfill county financial obligations to fund the construction and maintenance of local school capital projects, creating a partnership between the General Assembly and North Carolina Counties for the benefit of our students and educational facilities;

**NOW, THEREFORE, BE IT RESOLVED,** that we, the Henderson County Board of Commissioners, hereby respectfully request that the General Assembly of the State of North Carolina distribute any available funding for the purpose of school capital projects on a per pupil allocation based upon Average Daily Membership (ADM), and, require a local match, dollar for dollar, in County funding to access those funds.

Adopted this 4<sup>th</sup> day of March, 2019.

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GRADY H. HAWKINS, CHAIRMAN  
HENDERSON COUNTY BOARD OF COMMISSIONERS

ATTEST:

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TERESA L. WILSON, CLERK TO THE BOARD