

PUBLIC COMMENT SIGNUP SHEET

JANUARY 7, 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.

Bill Erickson

PRINTED NAME

3116 Magnolia Dr

Hendersonville 28792

MAILING ADDRESS

SIGNATURE

Topic

NC 191 Widening

2.

PRINTED NAME

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Topic

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Topic

MAILING ADDRESS

January 7, 2019
5:30 p.m.
PUBLIC HEARING

For consideration of economic development incentives for "Project Atlas"
Sign-up Sheet

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HENDERSON COUNTY BOARD OF COMMISSIONERS

1 Historic Courthouse Square, Suite 1
Hendersonville, North Carolina 28792
Phone: 828-697-4808 • Fax: 828-692-9855
www.hendersoncountync.org

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WILLIAM G. LAPSLEY
Vice-Chairman

J. MICHAEL EDNEY
REBECCA K. MCCALL
CHARLES D. MESSER

NOTICE

*PUBLIC HEARING

DATE: Monday, January 7, 2019

TIME: 5:30 p.m.

PLACE:
Commissioners' Meeting Room
1 Historic Courthouse Square, Hendersonville

SUBJECTS TO BE CONSIDERED: Public Hearing for consideration of economic development incentives for "Project Atlas"


Grady H. Hawkins, Chairman

- = Action may be taken with respect to any of the items to be discussed at this meeting.

January 7, 2019

5:30 p.m.

PUBLIC HEARING

For consideration of Rezoning Application #R-2018-03,
Tracy Grove Community Development Club

Sign-up Sheet

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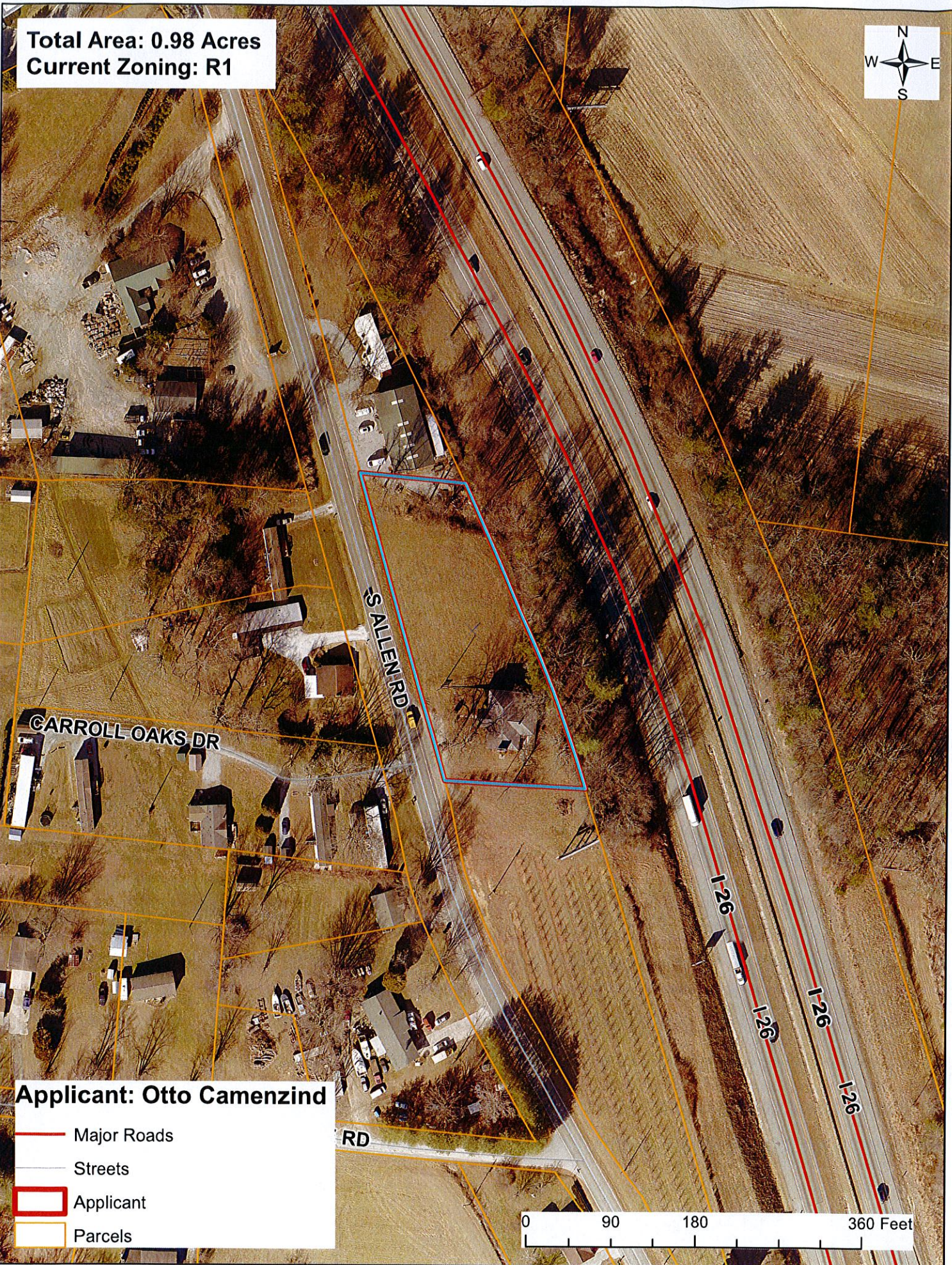
PLACE:
Commissioners' Meeting Room
1 Historic Courthouse Square, Hendersonville

SUBJECTS TO BE CONSIDERED: Rezoning Application #R-2018-03, Tracy Grove
Community Development Club, (R1) to (I)


Grady H. Hawkins, Chairman

- = Action may be taken with respect to any of the items to be discussed at this meeting.

Total Area: 0.98 Acres
Current Zoning: R1



Applicant: Otto Camenzind

January 7, 2019
5:30 p.m.
PUBLIC HEARING

For consideration of Rezoning Application #R-2018-06,
Gloria Ashley Property
Sign-up Sheet

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*PUBLIC HEARING

DATE: Monday, January 7, 2019

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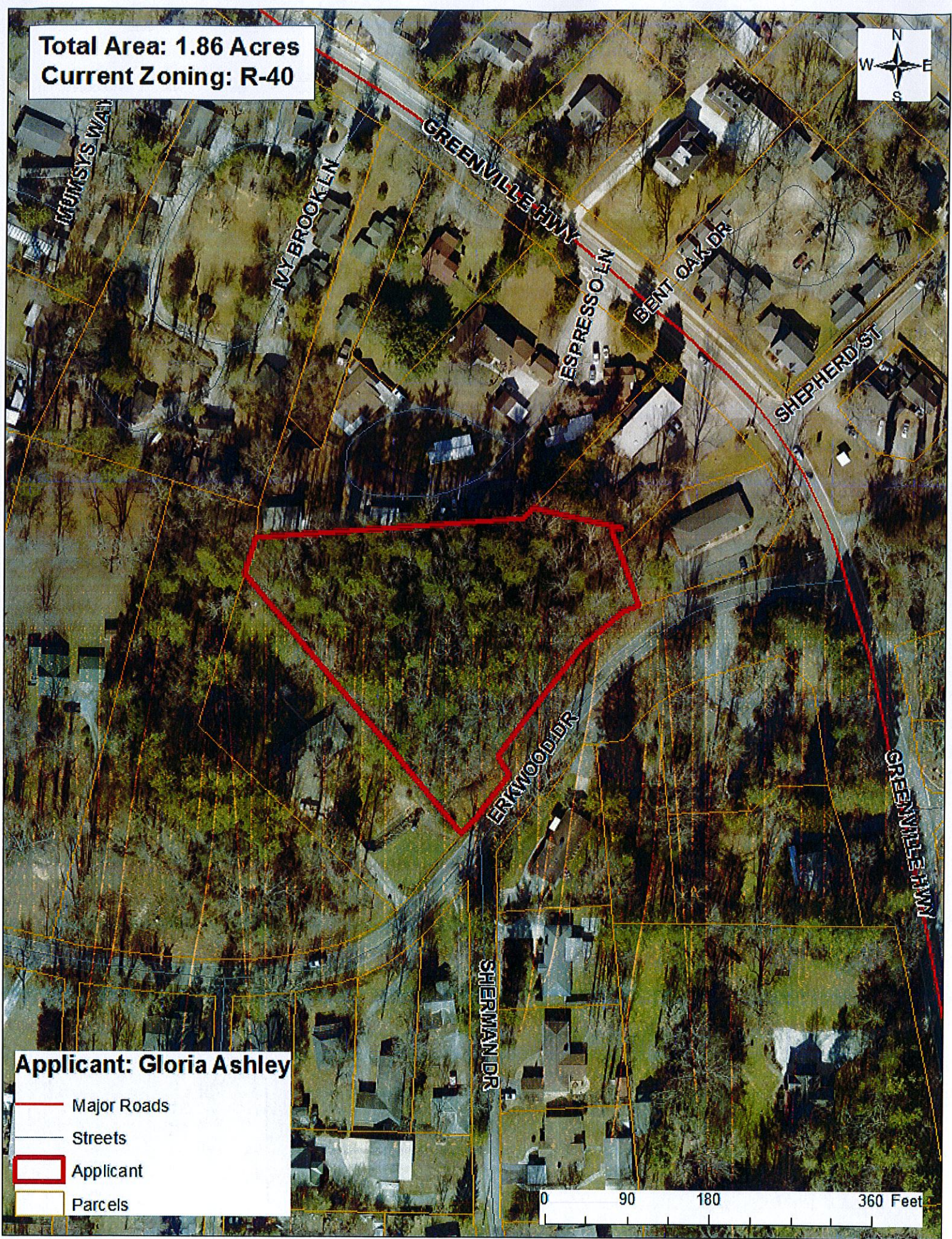
PLACE:
Commissioners' Meeting Room
1 Historic Courthouse Square, Hendersonville

SUBJECTS TO BE CONSIDERED: Rezoning Application #R-2018-06, Gloria Ashley Property, (R-40) to (LC)


Grady H. Hawkins, Chairman

- = Action may be taken with respect to any of the items to be discussed at this meeting.

Total Area: 1.86 Acres
Current Zoning: R-40



Applicant: Gloria Ashley

- Major Roads
- Streets
- Applicant
- Parcels

Kendall 01/07/19

**Public Comments
Henderson County Board of Commissioners
January 7, 2019**

My name is Bill Erickson. I am a retired engineer and a twenty-year resident of Henderson County.

The North Carolina Department of Transportation's (NCDOT's) current plan to widen N.C. 191 to four median-divided lanes, which it revealed on March 15, 2018 at a public meeting in Mills River, was developed when the Balfour Parkway had already been funded and seemed inevitable. There is little doubt that had the Balfour been built it would have been necessary to widen N.C. 191 to four lanes in order to handle the Balfour Parkway traffic. But this Board wisely killed the Balfour, which means that future traffic volume on N.C. 191 will be significantly less – 20% less according to NCDOT – than originally anticipated. Accordingly, NCDOT *needs to rethink its N.C.191 widening plan* and take a second look at the actual traffic conditions on N.C. 191 rather than remaining wedded to an obsolete plan that was predicated on the Balfour Parkway.

I have provided the Board with a report that examines the NCDOT plan in some detail. I will not attempt to summarize the report here except to say that the historical traffic and crash data do not justify the current N.C. 191 plan and cast doubt on NCDOT's 2040 traffic volume forecast upon which the plan is based.

NCDOT should take heed of the editorial published eight days ago in the *Hendersonville Times-News*, which expressed a widely held view:

Although the Balfour Parkway is dead, many residents along N.C. 191 remain opposed to the N.C. Department of Transportation's plans to widen the highway from two to four and five lanes between Mountain Road and Mills River. DOT should respond to their concerns and better justify plans for multiple lanes, and explain why less disruptive measures won't suffice.

NCDOT's current plan to widen the entire length of N.C. 191 to four median-divided lanes (five lanes within Mills River) was predicated on the Balfour Parkway and was proposed when the Balfour Parkway was already funded and seemed to be a foregone conclusion. However, intense public opposition killed the Balfour Parkway, which rendered NCDOT's original N.C. 191 widening plan obsolete and overtaken by events. Many residents now oppose NCDOT's current plan to widen the entire length of N.C. 191 to four or five lanes. It is therefore incumbent on NCDOT to listen to the people of Henderson County, adapt to the post-Balfour reality, and rethink its N.C. 191 widening plan.

Accordingly, I respectfully request that the Board of Commissioners pass a resolution asking NCDOT to (1) provide details about the growth models it used in its 2040 traffic forecast, and (2) develop a new N.C. 191 improvement plan that takes into account the cancellation of the Balfour Parkway.

Happy New Year, and thank you for your time and consideration.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

Executive Summary

Despite the cancellation of the Balfour Parkway and widespread public opposition in northern Henderson County, the North Carolina Department of Transportation (NCDOT) persists in its plan (NCDOT project R-2588B) to widen N.C. 191 from two lanes to four median-divided lanes between Boylston Highway (N.C. 280) and Mountain Road (SR 1381).

Although the historical record is clear that a four-lane N.C. 191 was *originally* conceived as a continuation of the four-lane Balfour Parkway and that the two road projects were intimately related,¹ NCDOT maintains that “the purpose of this project is to improve safety and mobility along N.C. 191.”² This rationale is dubious at best. A traffic congestion map prepared by the French Broad River MPO shows that the project corridor is relatively uncongested (except in the vicinity of West Henderson High School and Rugby Middle School) and, moreover, that N.C. 191 is actually *more* congested north of Boylston Highway and at its southern end where N.C. 191 converges with U.S. 25 (Business), locations that are *outside* the R-2588B project corridor. With respect to traffic safety, NCDOT produced a map in its 2008 *Comprehensive Transportation Plan* that showed that N.C. 191 had far fewer crashes than comparable roadways in Henderson County.

The cancellation of the Balfour Parkway means that NCDOT’s original traffic forecasts, which were predicated on the Balfour, significantly *overestimated* future N.C. 191 traffic volume. The large volume of traffic that *would have* traveled on N.C. 191 and the Balfour Parkway between Mills River and points south and east of Hendersonville will continue to follow current routes, the quickest of which is on Butler Bridge Road, U.S. 25, and I-26, which means that N.C. 191 will not experience the significant increase in traffic that would have occurred had the Balfour Parkway been built. NCDOT’s *post-Balfour* 2040 forecast, which predicts a 34% traffic increase, is undermined by the fact that the historical data shows that traffic volume on N.C. 191 between 2001 and 2017 increased by less than 3%.

Henderson County residents generally agree that N.C. 191 needs improvement – e.g. wider lanes and shoulders – and many cite the recent improvement of Howard Gap Road as an ideal model. They also endorse the work currently underway by NCDOT to reduce the twice-daily congestion (at the start and end of each school day) in the vicinity of West Henderson High School and Rugby Middle School. However, few people who regularly drive on N.C. 191 believe that enlarging it into a four-lane, median-divided highway is either justified or necessary. Moreover, the elimination of left-turns (except at major intersections), and the requirement that vehicles make U-turns to reach destinations on the opposite side of the median-divided roadway, will probably impair “safety and mobility,” not improve it.

Accordingly, and especially in light of the Balfour Parkway cancellation, NCDOT needs to rethink its R-2588B project plan that calls for transforming the *entire* length of N.C. 191 between Boylston Highway and Mountain Road into a four-lane median-divided highway (five lanes within Mills River) and consider less disruptive alternatives that focus on the two locations that are known to experience significant congestion and safety problems – the short stretches between N.C. 280 and Banner Farm Road, and between Rugby Road and Rugby Middle School – in order to “improve safety and mobility along N.C. 191” and also achieve wider acceptance by Henderson County residents.

Preface

This document was written by

Bill Erickson
3116 Magnolia Drive
Hendersonville, NC 28792
berickson@frontier-knowledge.com

¹ *Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties*, NCDOT Transportation Planning Branch, Prepared by Martin/Alexiou/Bryson, Final Report, January 18, 2008,

² *Proposed Widening of N.C. 191 from SR 1381 (Mountain Road) to N.C. 280 in Mills River, NC*, NCDOT, March 15, 2018.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

Introduction

On March 15, 2018, NCDOT held a public meeting at the Mills River Town Center where it presented its plan “to upgrade and widen existing N.C. 191 from SR 1381 (Mountain Road) to N.C. 280 for approximately 4.5 miles.” According to the meeting handout, the “purpose of this project is to improve safety and mobility along N.C. 191.” Among the “improvements being considered” by NCDOT, the most significant is its plan to “widen existing N.C. 191 to a four lane roadway with four 11-foot travel lanes [and] a 17.5-foot median....” As justification for this widening, the meeting handout asserted that

The project corridor experiences congestion during peak traffic hours which is projected to worsen in the future (12,400 vehicles per day currently use the corridor on average). The corridor also has a very high crash rate (257 crashes per million [sic] vehicle miles), well above the statewide average (197 crashes per million [sic] vehicle miles). The majority of these accidents are rear end crashes.³

Significantly, nowhere in the handout did NCDOT mention that the widened N.C. 191 would be linked at its southeastern end to the Balfour Parkway, which was also planned to be a four lane, median-divided highway. In fact, the Balfour Parkway was not mentioned at all in the handout nor was it ever mentioned on the N.C. 191 (R-2588B) project website. When asked about the obvious co-dependency of the N.C. 191 widening project and the Balfour Parkway, the NCDOT engineers at the public meeting insisted that the two road projects were completely separate and unrelated. They merely repeated the official mantra that the sole purpose of the widening project was to “improve safety and mobility on N.C. 191.” Although the Balfour Parkway has been cancelled, NCDOT persists in its plans to widen N.C. 191 into a four lane median-divided highway, although it has agreed to modify its plan by building five lanes without a median in Mills River.

In this document, we will examine the NCDOT plan to widen N.C. 191 to four median-divided lanes (and five lanes in Mills River). The document is divided into four sections. The first section is a review of the history of the Balfour Parkway and N.C. 191 widening, which demonstrates that the two projects were originally conceived – and were always viewed – as interrelated and completely dependent on each other. Without N.C. 191 widening, there would be no four-lane roadway to deliver and consume traffic at the western end of the four-lane Balfour Parkway. Without the Balfour, there would be no need to widen N.C. 191 to four (or five) lanes.

In the second section, we will examine the NCDOT traffic forecasts to determine whether they are supported by the historical traffic or population data. Despite a 26% increase in Henderson County population between 2000 and 2015, the historical traffic data shows that during that timeframe there was virtually no increase in traffic volume on N.C. 191. Nevertheless, NCDOT has forecast that traffic volume on N.C. 191 – without the Balfour – will increase by 34% between 2017 and 2040, at a rate of 1.3% per year.

In the third section, we will look at the N.C. 191 crash data to evaluate NCDOT’s claim that widening N.C. 191 to four median-divided lanes will “improve safety” along the project corridor. As shall be seen, NCDOT’s N.C. 191 crash data reveals that a disproportionate number of crashes on N.C. 191 occur at two narrow locations: (1) between N.C. 280 and Banner Farm Road; and (2) between Rugby Road and Rugby Middle School, in the vicinity of West Henderson High School. Contrary to NCDOT’s assertion that N.C. 191 corridor has an above-average crash rate, it will be shown that the crash rate along most of the N.C. 191 project corridor is actually *less* than the statewide average.

In the fourth and final section, a possible alternative to NCDOT’s current plan is proposed that would achieve NCDOT’s stated goal of “improving safety and mobility along N.C. 191” but without widening the entire roadway to four or five lanes.

³ *Proposed Widening of N.C. 191 from SR 1381 (Mountain Road) to N.C. 280 in Mills River, NC.* NCDOT, March 15, 2018.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

N.C. 191 and the Balfour Parkway: Joined at the Hip

Serious planning for the Balfour Parkway and N.C. 191 widening began in 2008 with the publication of the French Broad River MPO *Comprehensive Transportation Plan*;⁴ however, the roots of both projects date back to the late 1990s, with the “Clear Creek Connector” plan.

Although the Clear Creek Connector would have been located south of the Balfour Parkway corridor and largely within the Hendersonville city limits, the two projects were strikingly similar. Both were conceived as east-west expressways that connected U.S. 64 (east of I-26) to N.C. 191 in the vicinity of Mountain Road, with a new I-26 interchange in between. Significantly, as part of the Clear Creek Connector plan, NCDOT proposed widening N.C. 191 between Mills River and Hendersonville⁵ to accommodate the traffic entering and exiting the Clear Creek Connector at its western terminus, which NCDOT also proposed in 2008 along with its Balfour Parkway plan.

Not unlike the public reaction to the Balfour Parkway plan, NCDOT’s 1999 plan to build the Clear Creek Connector created an “uproar” and “residents rose up in opposition.”

In March 1999, more than 300 people turned out for a public hearing, with most speaking against plans for the connector and a related plan to widen N.C. 191. With Hendersonville City Council also opposed, DOT in the summer of 2000 eliminated \$55 million that had been earmarked for the connector and instead put it toward a plan to widen I-26 to six lanes in Henderson County. [My emphasis]⁶

“Talked about since the late 1970s,”

the connector triggered a storm of protest when it moved to the top of a state highway plan for Henderson County. The project became the lightning rod for the Hendersonville City Council election of 1999 and propelled opponents to victory.⁷

Thanks to vigorous opposition by county residents and a newly-elected Hendersonville City Council, the Clear Creek Connector project was cancelled in 2000. However, NCDOT persisted in its push for N.C. 191 widening:

Although the Clear Creek Connector is no longer funded, DOT will look at widening two other local roads in the upcoming TIP [Transportation Improvement Plan] draft, officials said. The TIP will include a proposal to widen N.C. 191 to a four-lane divided highway from N.C. 280 in Mills River to a point outside the city limits, [DOT engineer Ron] Watson said. He said he was not sure where the widened section would end. The four-lane section would encompass the part of N.C. 191 in front of West Henderson High and Rugby Middle schools.

“There are some (traffic) problems out there around the schools and there are some bridges at the French Broad River that are needing to be replaced anyway,” Watson said.

Many residents of the Haywood Road corridor opposed plans to widen N.C. 191 and the connector, which they feared would make the 191 widening more likely. But Watson said DOT is not trying to “slide anything in the back door” with the connector’s demise. [My emphasis and bracketed insertions]⁸

In 2003, there was an effort to revive the Clear Creek Connector (and N.C. 191 widening), but that went nowhere.

Hendersonville City Councilwoman Londa Murray said she is disappointed DOT is again considering the connector. “If they want to start that fight again, I’m ready for it,” said Murray, who

⁴ *Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties*. NCDOT Transportation Planning Branch, January 18, 2008.

⁵ “Connector’s death may mean a wider Interstate 26,” Harrison Metzger, *Hendersonville Times-News*, June 10, 2000.

⁶ “DOT takes another look at connector,” Harrison Metzger, *Hendersonville Times-News*, August 26, 2003.

⁷ “The Top 10 local stories of 2000,” *Hendersonville Times-News*, December 31 2000.

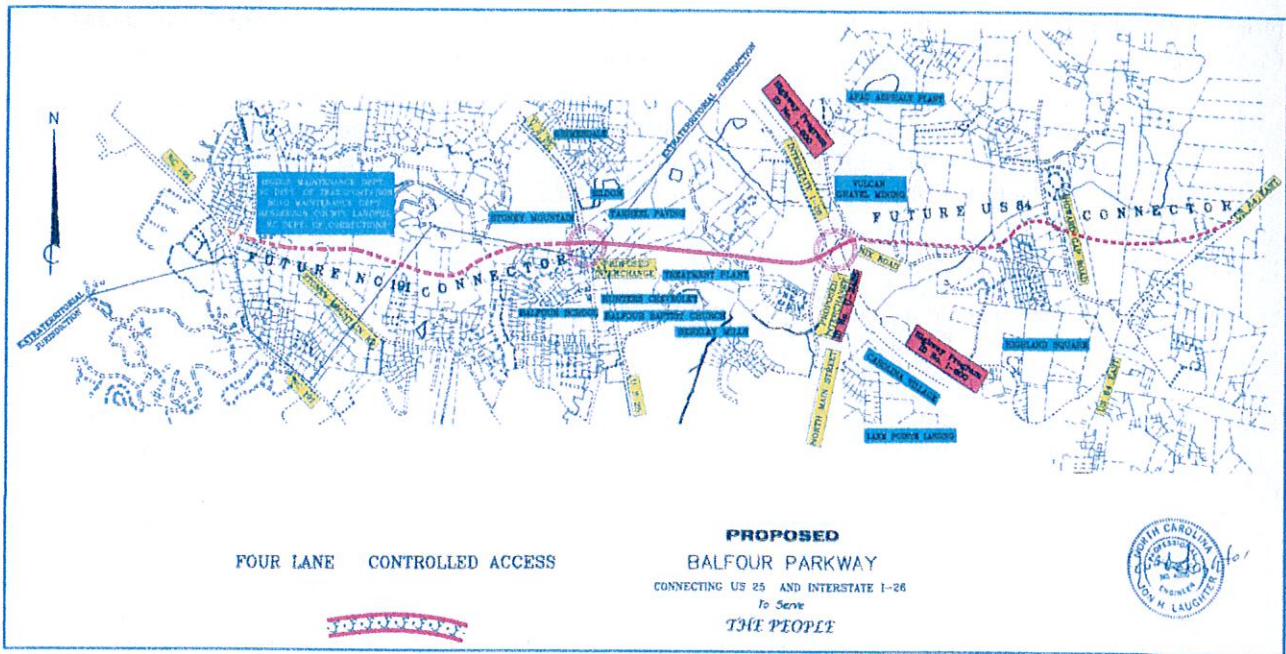
⁸ “Connector’s death may mean a wider Interstate 26,” Harrison Metzger, *Hendersonville Times-News*, June 10, 2000.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

won her seat four years ago after fighting the connector and the widening of N.C. 191. “It’s just not going to happen.” [My emphasis]⁹

Despite the cancellation of the Clear Creek Connector, interest in a new east-west expressway north of Hendersonville remained strong among the Hendersonville business community, which saw it as an easy way of relieving congestion on Four Seasons Blvd.¹⁰ Although the Clear Creek Connector was killed, it was destined to rise from the grave, but this time under a different name – the Balfour Parkway.

The Balfour Parkway was conceived by Jon Laughter, a civil engineer who had served on the Hendersonville City Council between 1993 and 1997... i.e., *before* the Clear Creek Connector controversy. The figure below, depicting Laughter’s proposed route of the Balfour Parkway (dated August 15, 2002, revised on September 16, 2003), was produced by Laughter, Austin and Associates, P.A. and signed by Laughter.



The Balfour Parkway was nearly identical to the defunct Clear Creek Connector, but with one crucial difference: the Balfour would be entirely outside the Hendersonville city limits, in unincorporated Henderson County north of the city. Shifting the route of the Clear Creek Connector... er... Balfour Parkway... north by a few hundred yards was a very savvy and shrewd move by Laughter, who would run again for the Hendersonville City Council in 2003 and get elected in 2005. Building the new east-west highway entirely outside the Hendersonville city limits would take the highway off the table when it came to Hendersonville city politics, thus protecting the elected Hendersonville officials from irate Hendersonville voters and passing the buck to Henderson County and its Board of Commissioners. And the ploy worked: Notwithstanding its strident opposition to the Clear Creek Connector, the Hendersonville City Council steadfastly supported the Balfour Parkway to the bitter end as a panacea for its Four Seasons woes. In the summer of 2018 – after the Henderson County Board of Commissioners had already voted 4-1 to kill the Balfour Parkway! – the Hendersonville City Council voted unanimously to continue the Balfour project.¹¹

* * *

⁹ “DOT takes another look at connector,” Harrison Metzger, *Hendersonville Times-News*, August 26, 2003.

¹⁰ *Ibid.* The myth that an east-west connector would relieve congestion on Four Seasons Blvd. persists to this day. See “Balfour: Another traffic myth,” Bill Erickson, *Hendersonville Times-News*, May 13, 2018.

¹¹ As former Speaker of the House Tip O’Neill famously said, “all politics is local.”

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

The historical record demonstrates that N.C. 191 widening has always been intimately linked – both geographically *and* conceptually – to the Balfour Parkway, just as it had been intimately linked to the Clear Creek Connector two decades ago.

The following table is from the 2008 *Comprehensive Transportation Plan* (CTP), which NCDOT produced for the French Broad River MPO.¹² The Balfour Parkway (C3) and N.C. 191 (C5) projects are highlighted in yellow.

Table 2-1 Recommended Highway Projects												
Facility & Segment		From	To	Description	Distance (mi)	Cross- Section lanes	Existing System		Proposed System			
ID	Facility						Speed Limit (mph)	Capacity 2005 (vpd) ¹	ADT ²	Capacity 2030 (vpd) ¹	ADT ³	Cross- Section lanes
Henderson												
Freeways												
C1	I-26	US 25	I-40 (Bluncombe Co)	Widen to 6 lanes	22.5	4	60/65	72,900	79,800	109,400	80,500	6
C2	US 25	I-26	NC 225	Upgrade to 4-lane freeway	3.6	2	55	25,500	16,500	55,700	26,300	4
Expressways												
C3	Balfour Parkway	NC 191	US 64 (East of I-26)	Construct 4-lane expressway	4.6					31,700+		4
Boulevards												
C4	Upward Rd	US 176 / US 25 Bus	Howard Gap Rd	Widen to 4 lanes with median	2.5	2	35/45	11,400	17,500	30,600	35,200	4
C5	NC 191	NC 280	Balfour Parkway	Widen to 4 lanes with median	4.2	2	45	16,700	14,400	31,700	27,600	4

Note in particular that according to this table the N.C. 191 widening project would extend from N.C. 280 to Balfour Parkway, i.e., *not* to Mountain Road, as NCDOT stated in its March 15, 2018 public meeting handout. (One wonders why NCDOT didn't mention the Balfour Parkway in its handout.) Note also that the planned capacity of the Balfour Parkway and the widened N.C. 191 were identical – 31,700 vehicles per day.

Can anyone reasonably deny that the NCDOT planners regarded these two projects as interrelated and co-dependent? Clearly, widening N.C. 191 to four median-divided lanes was originally part of a *greater Balfour megaproject*, just as it had previously been part of a Clear Creek Connector megaproject, with a four-lane median-divided N.C. 191 serving as the western continuation of an east-west four-lane median-divided expressway, irrespective of the latter's name. Although NCDOT claims that the purpose of widening N.C. 191 is to "improve safety and mobility along N.C. 191,"¹³ and never mentioned N.C. 191 and the Balfour Parkway in the same breath, the historical evidence is clear that N.C. 191 widening was originally linked to the Balfour Parkway (just as it had been linked to the Clear Creek Connector) and always has been. In other words, the projects were joined at the hip.

The interrelationship of a four-lane N.C. 191 to the Balfour Parkway is best understood by comparing current traffic patterns between Hendersonville and Mills River with what would have been the case had the Balfour Parkway been built.

¹² *Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties*. NCDOT Transportation Planning Branch, January 18, 2008.

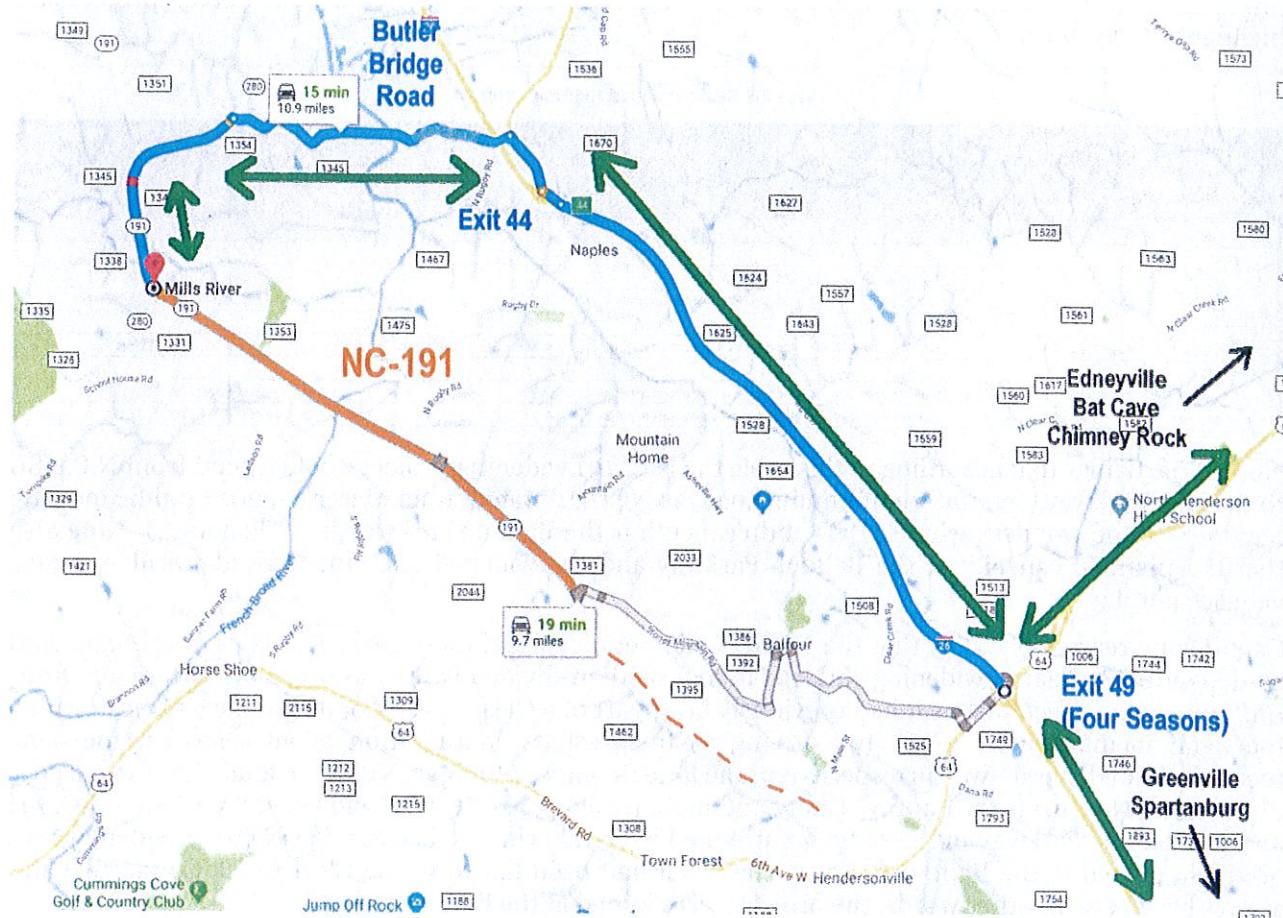
Table notes:

1. Approximate level-of-service (LOS) E capacity in vehicles per day (vpd). These capacities are extracted from the FBRMPO Travel Demand Model and in most cases represent a typical value for the existing/proposed facility type.
2. The 2005 ADT value is the actual count taken by NCDOT's Traffic Survey Unit. Where multiple counts were available along a corridor, the highest value was reported; note that higher volumes may exist along the corridor that were not counted. This value should not be taken as representative for the entire corridor, rather traffic survey maps should be consulted to determine a representative value.
3. The 2030 future year values have been estimated by simply taking the absolute change in assigned volume (from the FBRMPO Travel Demand Model) and adding this to the 2005 ADT. This should be a reasonable estimate of future year volume but in no way is a substitute for an official traffic forecast.

¹³ *Proposed Widening of N.C. 191 from SR 1381 (Mountain Road) to N.C. 280 in Mills River, NC*. NCDOT, March 15, 2018.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

The map below depicts the two fastest routes between Mills River and points south and east of Exit 49 in Hendersonville.¹⁴ At present, the fastest route (in blue) is via Butler Bridge Road, U.S. 25 (north of Exit 44), and I-26 (between Exits 49 and 44) and is shown by the green arrows. Note that even though the northern route is 1.2 miles *longer* than the second fastest route (in orange and gray) along N.C. 191, it is four minutes *faster*.



Widening N.C. 191 (shown in solid orange) to four median-divided lanes will not shorten the travel time between Mills River and points south and east of Exit 49 because of the current and proposed traffic lights at Banner Farm Road, School House Road, Rugby Road, West Henderson High, and Mountain Road. (Keep in mind that the *current* speed limit on N.C. 191 between School House Road and Mountain Road is 55 mph.) In other words, the fastest route between Mills River and points south and east of Hendersonville will continue to be the northern Butler Bridge route. Widening N.C. 191 to four median-divided lanes will not alter that fact.

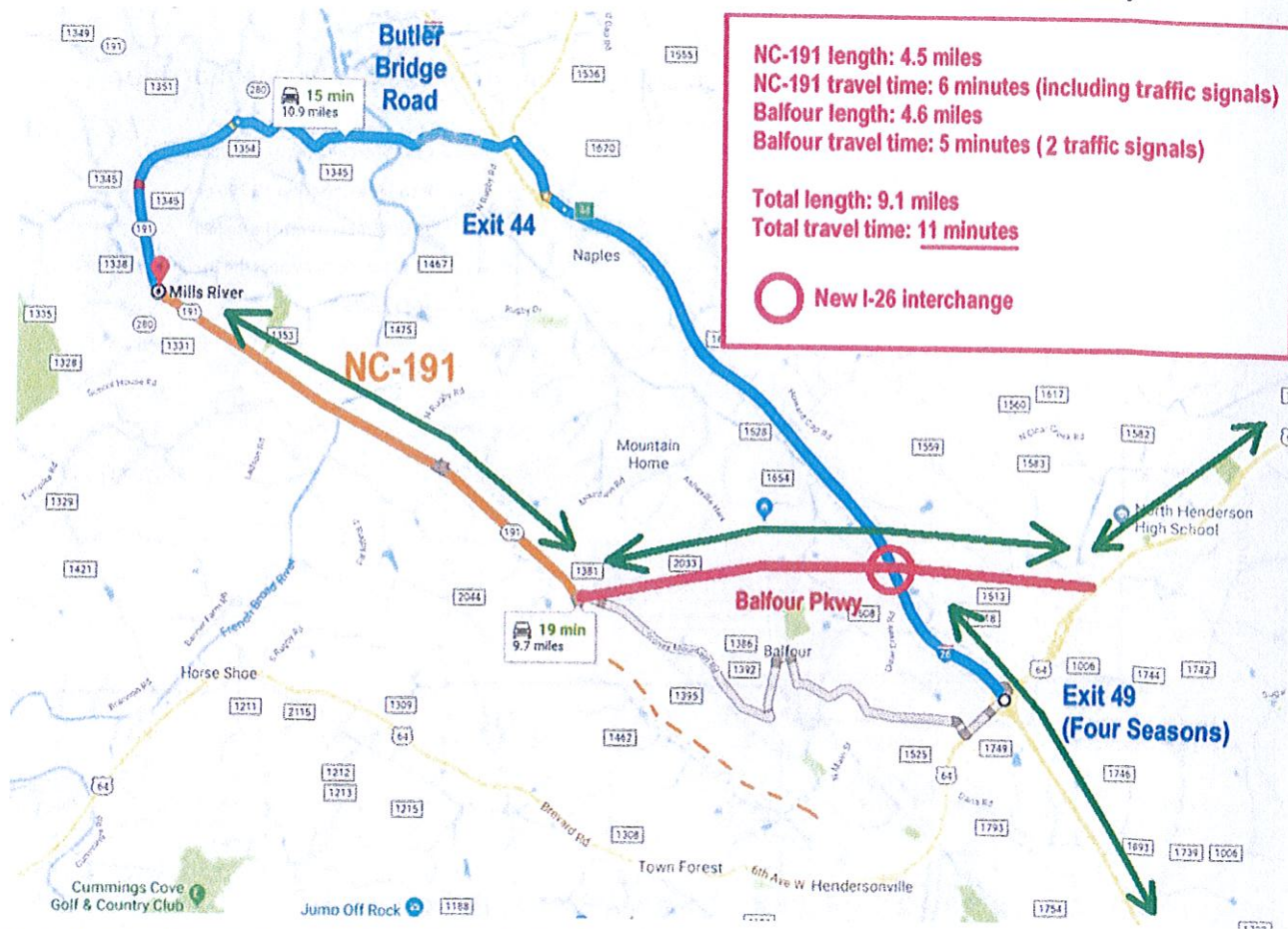
N.C. 191 between Boylston Highway and Mountain Road is not the cause of the slow travel time along the southern route, and widening N.C. 191 to four median-divided lanes will not reduce the travel time, or “improve mobility,” to borrow NCDOT’s terminology. Rather, the reason for the slow travel time along the southern route is the circuitous path that vehicles must follow between Exit 49 and N.C. 191, shown in gray, which takes them along Four Seasons Blvd, Thompson Street, Signal Hill Road, Berkeley Road, Asheville Hwy (U.S. 25 Business), and Stoney Mountain Road. Thus, NCDOT’s argument that widening N.C. 191 to four median-divided lanes will “improve mobility” is specious... unless of course there were a faster route between N.C. 191 and I-26.

Enter the Balfour Parkway.

¹⁴ Google Maps.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

The map below shows the approximate location (in red) of the now-defunct Balfour Parkway.



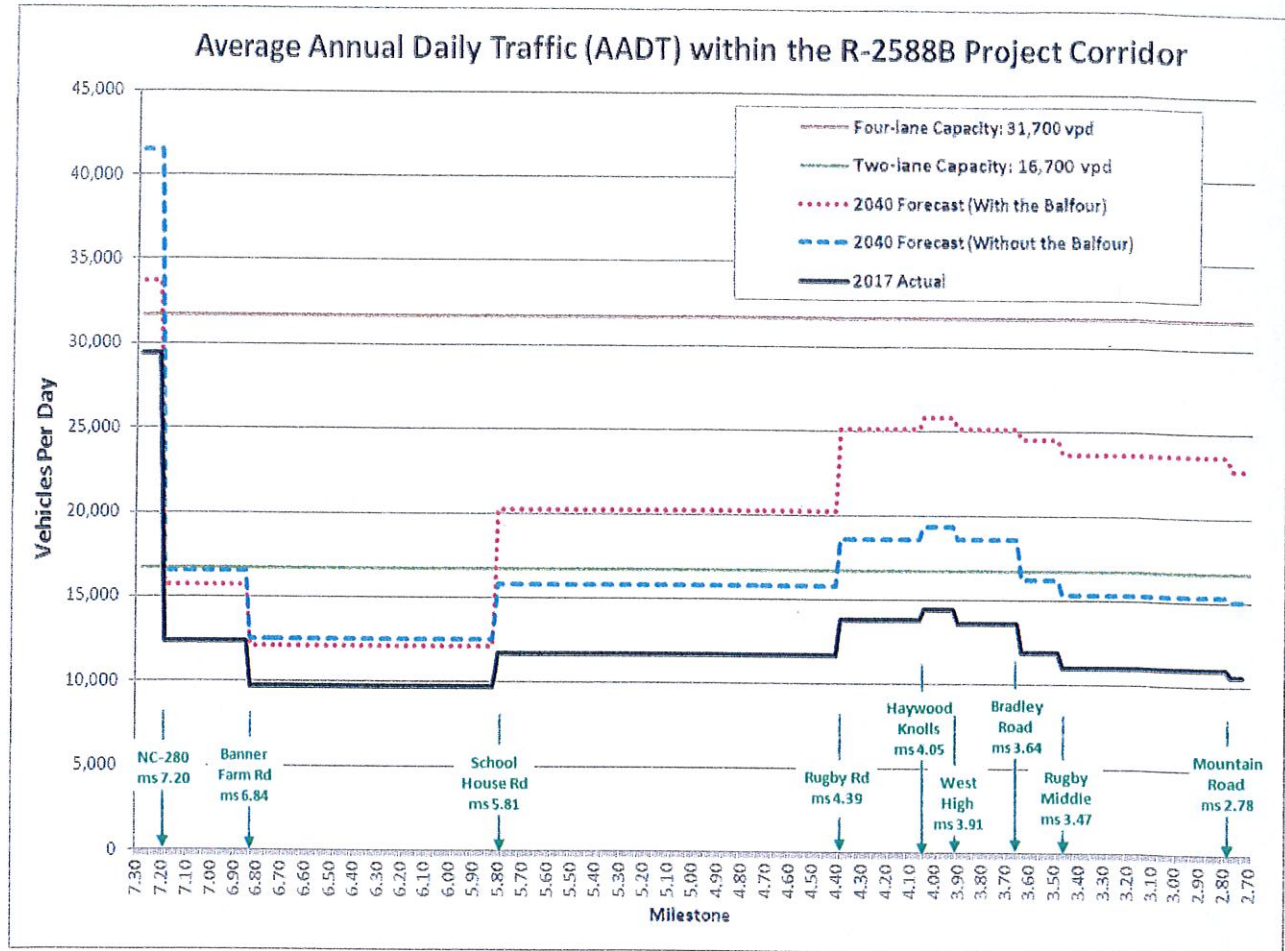
Note that had the Balfour Parkway been built, the total travel time between Mills River and points south and east of Hendersonville would have been *reduced* by about four minutes. Vehicles travelling between Mills River and Edneyville (on U.S. 64), or South Carolina (on I-26), would have naturally taken the Balfour Parkway and N.C. 191. But the Balfour Parkway was wisely killed by the Henderson County Board of Commissioners and the French Broad River MPO, not because it wouldn't have reduced travel time to and from Mills River – it certainly would have – but because it would have destroyed scores of homes and displaced hundreds of Henderson County residents.

There is little doubt that had the Balfour Parkway been built, widening N.C. 191 to four median-divided lanes would have been necessary to deliver and consume traffic at the western end of the Balfour. But with the cancellation of the Balfour Parkway, the entire rationale for converting N.C. 191 into a four lane median-divided highway vanished into thin air.

Widening N.C. 191 to four lanes was an essential component of the Balfour Parkway plan, just as it had been an essential part of the Clear Creek Connector plan, but without the Balfour Parkway – i.e., without an east-west expressway between I-26 and N.C. 191, irrespective of its name – the widening of N.C. 191 to four or five lanes, as NCDOT still wants to do, is unnecessary, unjustified, and superfluous.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

This is clearly evident in NCDOT's N.C. 191 traffic forecasts *with* and *without* the Balfour, as depicted on the graph below:¹⁵



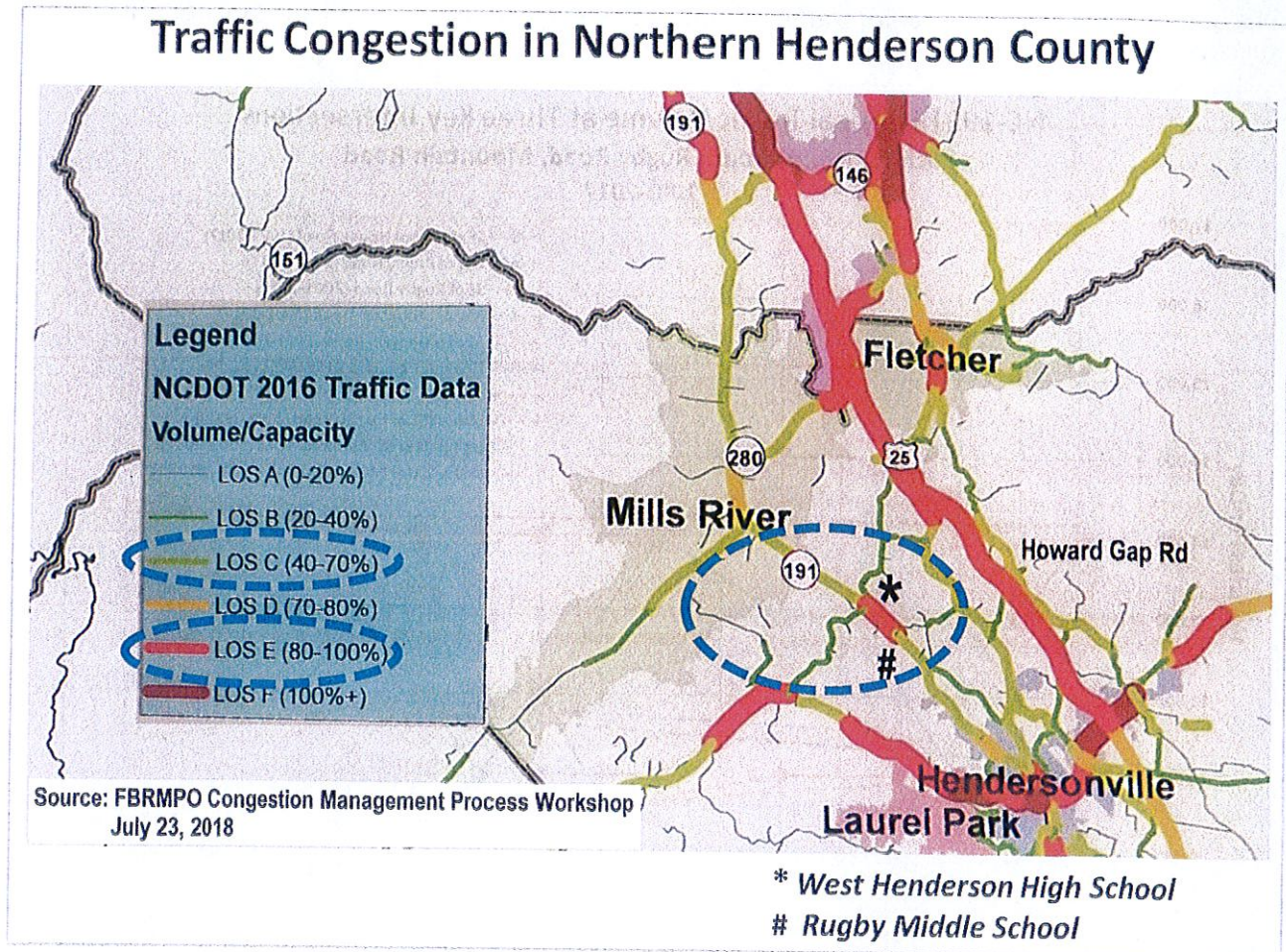
The black line shows the N.C. 191 traffic volume in 2017 between N.C. 280 (Boylston Highway) on the left and Mountain Road on the right. The dotted red line shows NCDOT's 2040 traffic volume forecast along N.C. 191 had the Balfour Parkway been built. Note that for most of the length of N.C. 191, the traffic volume would have exceeded the current (two-lane) capacity of N.C. 191 (16,700 vehicles per day – the green horizontal line). However, without Balfour (the dashed blue line), the only segment that exceeds current capacity is between Rugby Road and Bradley Road, in the vicinity of West Henderson High School and Rugby Middle School. The higher traffic volume in this 0.75-mile-long segment is related to the twice-daily influx of vehicles at the beginning and end of each school day. About 15% of those vehicles come from Rugby Road, not Mills River. Widening N.C. 191 to four median-divided lanes west of Rugby Road will not reduce traffic volume near the two schools and may actually increase it.

¹⁵ Data sources.

- Two and four-lane capacity: *Comprehensive Transportation Plan*, January 18, 2008.
- 2017 Actual and 2040 Forecast (with the Balfour): *NCDOT State TIP Project No. R-2588B Final Report*, July 27, 2017.
- 2040 Forecast (without the Balfour): *Project Level Traffic Forecast NCDOT State TIP Project No. R-2588B*, November 2, 2018.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

NCDOT claims that widening N.C. 191 to four median-divided lanes will reduce congestion along the N.C. 191 corridor. However, the map below shows that in comparison to other roadways in northern Henderson County, N.C. 191 between Mills River and Hendersonville is relatively uncongested... *except* in the vicinity of West Henderson High School and Rugby Middle School.



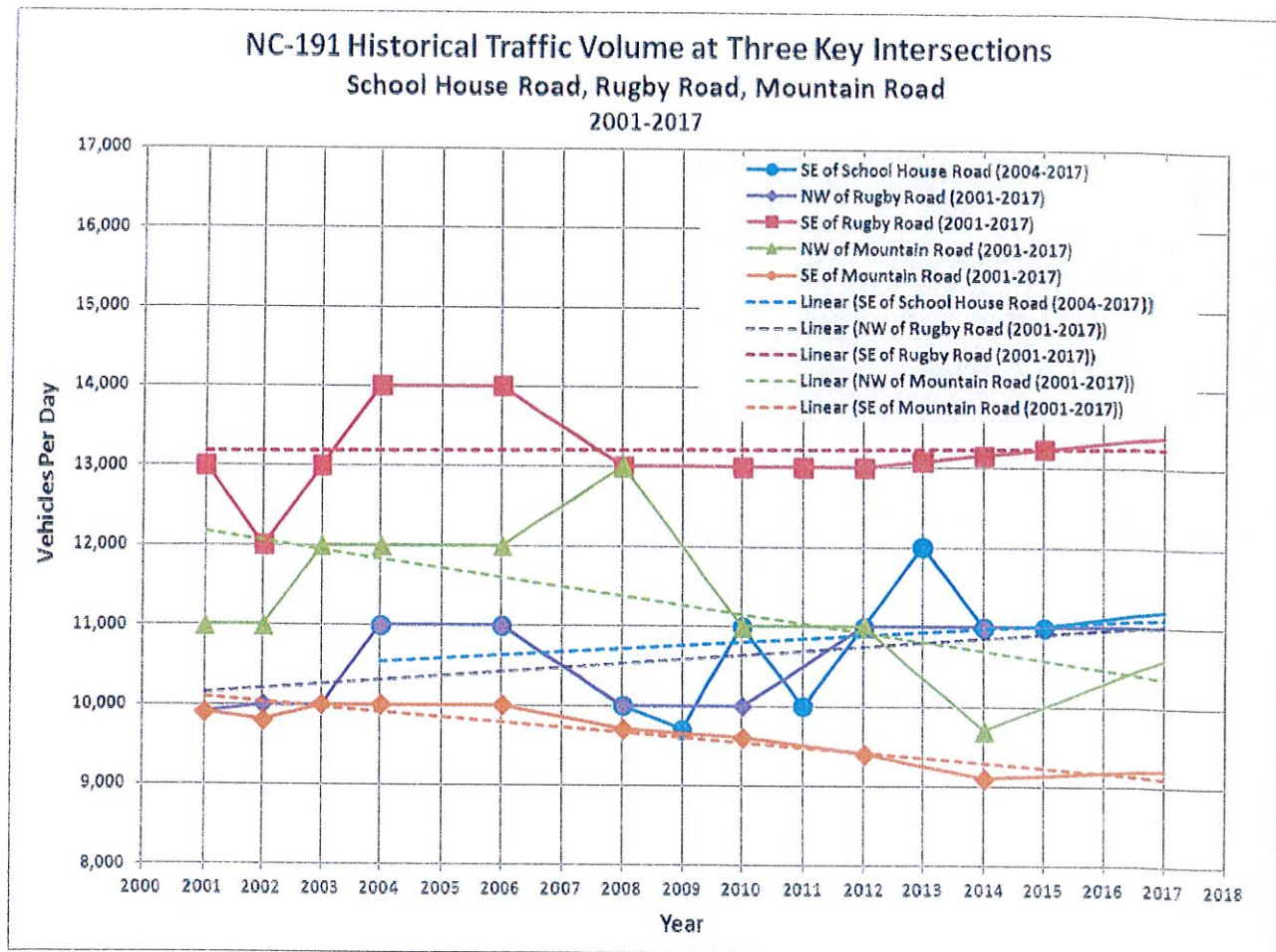
Overall, N.C. 191 between N.C. 280 and Mountain Road has a Level of Service (LOS) of "C" – a roadway with stable flow and moderate congestion at intersections – whereas the LOS worsens to "D" (high density flow on the roadway and intersections approaching an unstable condition) north of the N.C. 280 intersection in Mills River and south of Mountain Road in Hendersonville, where it converges with U.S. 25 (Business). Both locations are outside the R-2588B project corridor. According to this map, the only location within the project corridor that has a serious congestion problem – LOS "E" (high density traffic flow nearing capacity and unstable congested intersections) – is the short stretch between Rugby Road and Rugby Middle School, which includes West Henderson High School. This traffic "hot spot" is obviously related to the influx of traffic that occurs at the beginning and end of each school day, which, as discussed in more detail below, probably requires additional lanes to reduce the twice-daily congestion and improve mobility and safety.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

N.C. 191 Historical Traffic Volume and 2040 Forecast

NCDOT predicts that traffic volume on N.C. 191 (*without* the Balfour) will increase by 34% between 2017 and 2040, a growth rate of 1.28% per year. Is this forecast supported by historical traffic data?

The graph below shows the *actual* traffic volume between School House Road and Mountain Road that NCDOT measured between 2001 and 2015.¹⁶



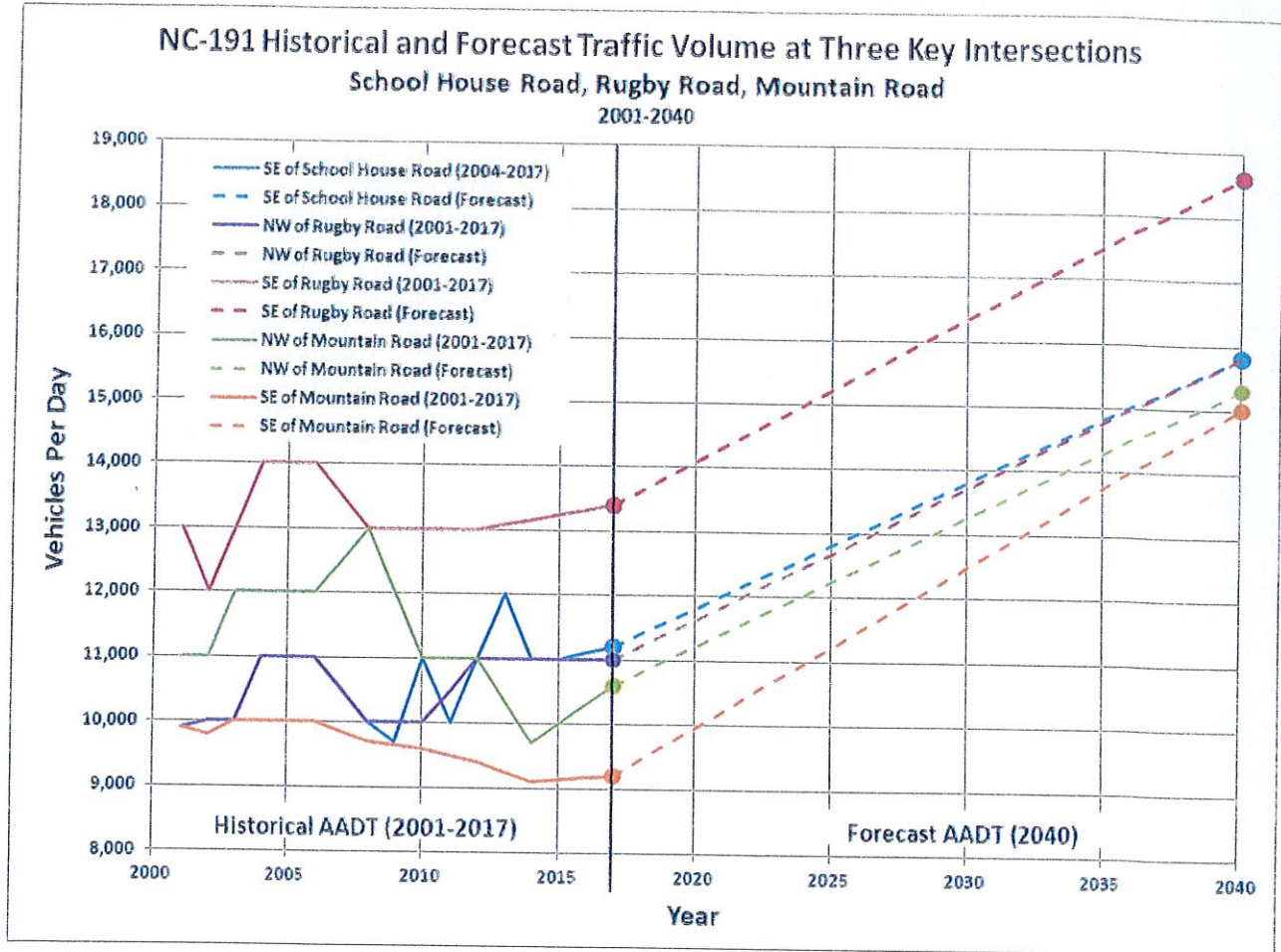
The five solid lines show the N.C. 191 traffic volume between 2001 and 2017 at three key intersections: (1) School House Road (in blue, southeast only), (2) Rugby Road (in purple and red, both directions) and (3) Mountain Road (in green and orange, both directions). The solid symbols (squares, triangles, etc.) show the actual measured traffic volume on each of those segments. Traffic volumes were not measured every year. NCDOT collected no data in 2005 and 2007, and only some data in 2009, 2011, and 2013.¹⁷ The colored dashed lines show the linear trend of each data set. Note in particular the significant reduction in traffic volume in the vicinity of Mountain Road (the green and orange curves and trend lines.) This data, which NCDOT collected between 2001 and 2015, proves that there was no significant increase in traffic volume on N.C. 191 during the past two decades.

¹⁶ NCDOT State TIP Project No. R-2588B Final Report, July 27, 2017, Appendix A (NCDOT Historical AADT Data), July 27, 2017.

¹⁷ NCDOT reported no traffic data in 2016 and 2017. The data for those two years are NCDOT forecasts, presumably based on the data collected between 2001 and 2015. Interestingly, they all trend upward, even the Mountain Road datasets (in green and orange), which show an obvious *downward* trend between 2001 and 2015 based on the actual data but an upward trend in the 2016 and 2017 forecasts.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

The graph below shows the same historical traffic data on the left side and NCDOT's 2040 forecast (without the Balfour)¹⁸ for each road segment on the right side.

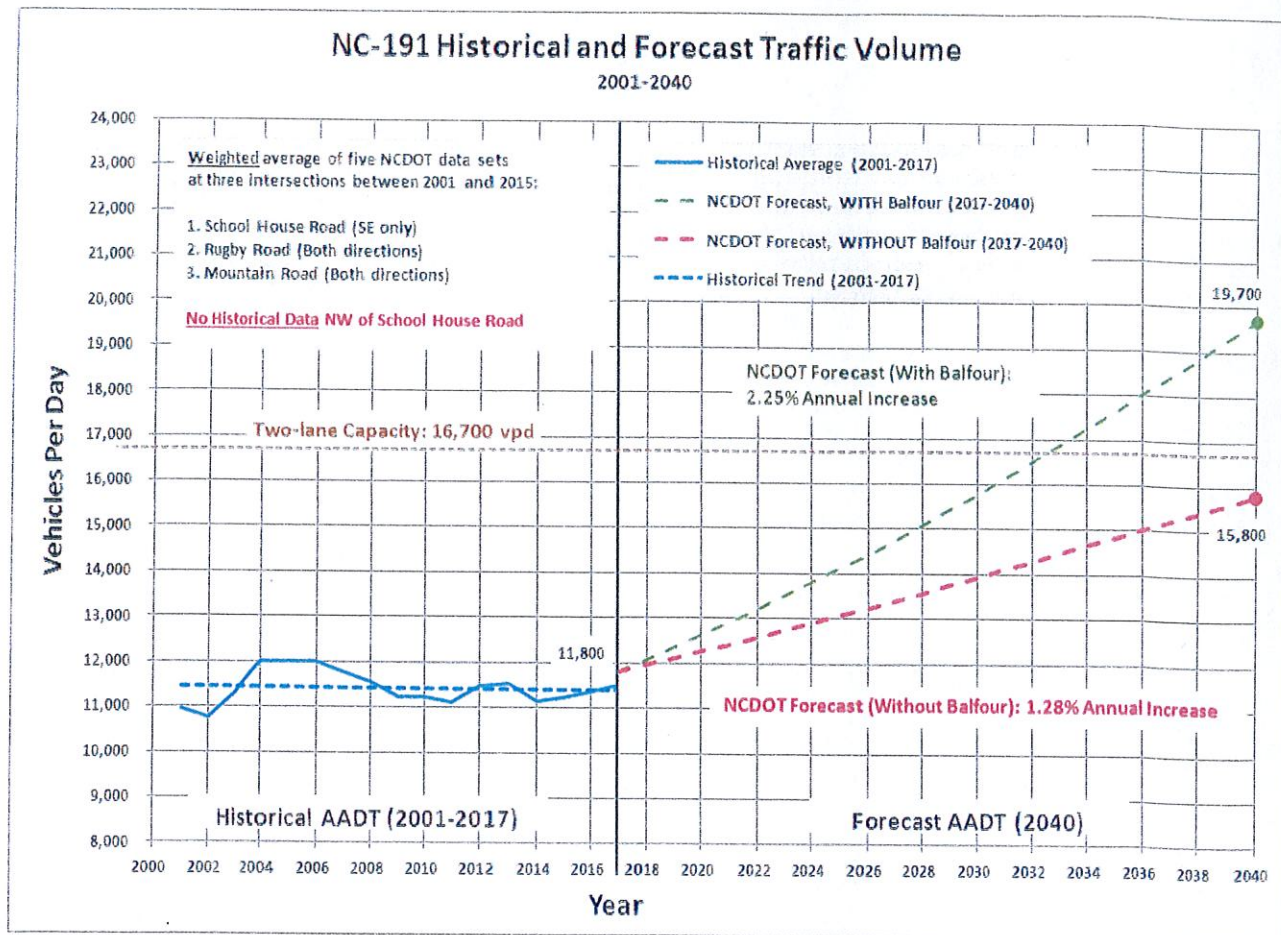


Note that in contrast to the historical N.C. 191 traffic volume, which remained essentially flat between 2001 and 2017, NCDOT predicts that traffic volume in each segment will increase significantly between 2017 and 2040.

¹⁸ The 2040 forecast (without the Balfour) is from *Project Level Traffic Forecast, NCDOT State TIP Project No. R-2588B*, November 2, 2018.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

This contrast between the historical traffic data, which shows little if any increase in traffic volume between 2001 and 2017, and NCDOT's 2040 forecast, which anticipates a 34% increase in traffic volume between 2017 and 2040, is brought into sharper focus by the graph below.



The solid blue curve on the left side of the graph shows the weighted average¹⁹ of the five NCDOT historical data sets that were depicted individually in the previous graphs; the dashed blue line is the linear trend, which is slightly downward. The dashed red line on the right side of the graph shows the current NCDOT forecast, *without* the Balfour. (For comparison, the predicted traffic volume *with the Balfour* is also shown as the dashed green line. Note that the predicted volume in 2040 *without* the Balfour [15,800 vehicles per day] is nearly 20% lower than the predicted volume *with the Balfour* [19,700 vehicles per day].)

These graphs, which show virtually no change in the historical traffic volume on N.C. 191 between 2001 and 2017, but a significant increase in the predicted traffic volume between 2017 and 2040, suggest that NCDOT essentially *ignored* the traffic data that it collected between 2001 and 2015 when it developed its 2040 forecast. How, then, did NCDOT come up with its 2040 forecast, which anticipates a 34% increase in N.C. 191 traffic volume between 2017 and 2040?

¹⁹ The "weighted average" takes into account the *length* of the five N.C. 191 road segments where NCDOT measured traffic volume between 2001 and 2015. Long segments "carry more weight" than short segments.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

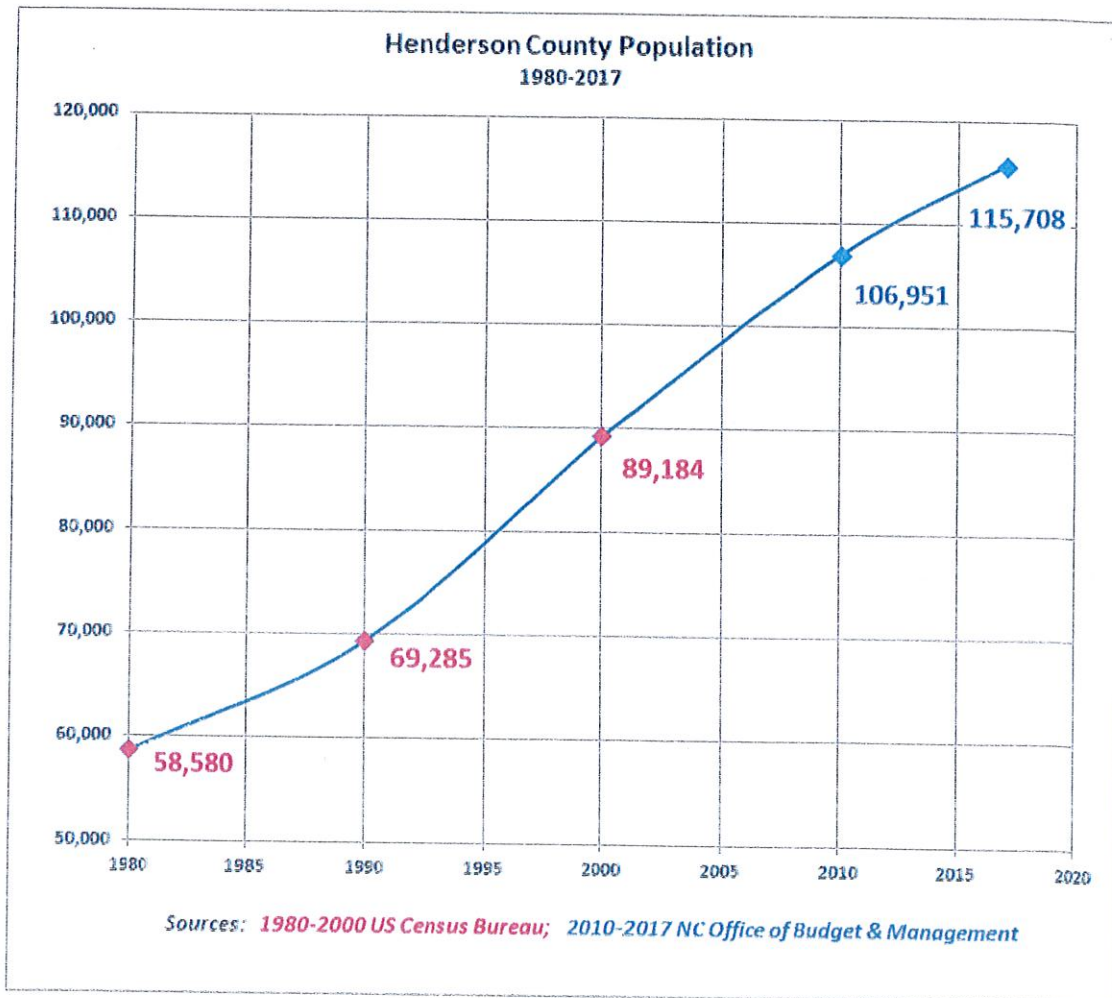
According to NCDOT,

One of the biggest criteria used in forecasting growth for this particular area are the French Broad River MPO data for future model growth based on projected land use projects. This data considers development which in turn, can provide a solid basis to develop future traffic needs. Whereas historical growth data are reviewed, it is not the primary factor of source material.²⁰

Unfortunately, no details are available on the “projected land use projects” that might impact N.C. 191,²¹ most of which runs through the French Broad River floodplain and thus precludes any large-scale housing or commercial developments along its corridor. Given that fact, it is difficult to imagine what kind of “land use projects” might conceivably produce a 34% increase in traffic volume over the next two decades, when there was virtually no increase in traffic volume over the past two decades, which actually encompasses a period of high population growth, as discussed below.

Henderson County Population Growth

One possibility is that NCDOT's 2040 traffic forecast is based on the anticipated Henderson County population growth. As shown on the graph below, Henderson County's population *doubled* between 1980 and 2017 – growing from 58,580 in 1980 to 115,708 in 2017 – and will no doubt continue to grow over the next 20 years.

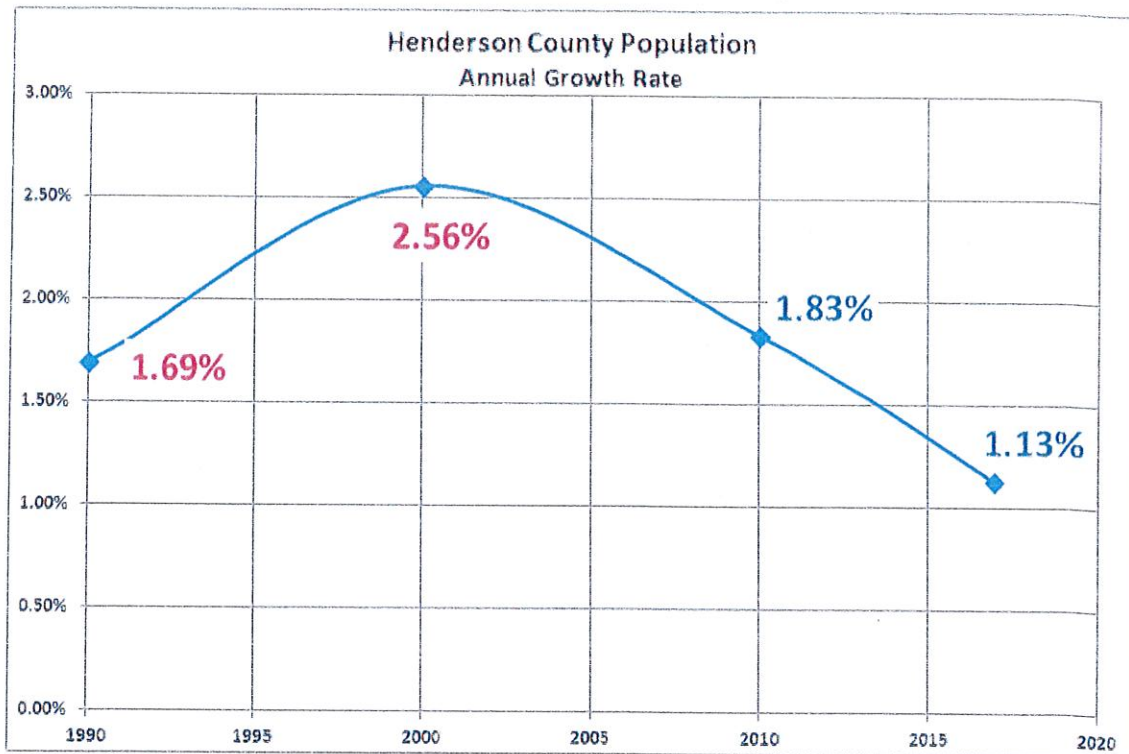


²⁰ E-mail to Erickson from J.S. Miller (NCDOT), December 18, 2018.

²¹ Cf. “Does the county have any industrial sites left?” Matt Matteson, *Hendersonville Lightning*, January 2-8, 2019.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

The rapid population growth of Henderson County over the past forty years is indisputable. However, as shown in the graph below, the *rate of growth* is actually decreasing.



Note that the Henderson County population growth *rate* peaked around 2000 and has been declining ever since.

It would seem reasonable for NCDOT to assume in its modeling that there is a correlation between population and traffic volume. In other words, it makes perfect sense that an increase in population would lead to a proportional increase in traffic volume. Unfortunately, the historical data utterly refutes that assumption.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

As shown in the table below,²² the population of Henderson County increased by 26% (from 89,173 to 112,655, highlighted in orange) between 2000 and 2015. During that same period, the population of Mills River increased by 25% and the City of Hendersonville by 32% (both highlighted in yellow). Yet during that same period, traffic volume on N.C. 191 – between Mills River and Hendersonville – increased by *less than 3%*, which is nearly an order of magnitude lower than the population growth.²³

Location	Category	Estimate				Growth Rate		
		1990	2000	2010	2015	1990-2015	2000-2015	2010-2015
Henderson County	Population	69,285	89,173	106,740	112,655	1.96%	1.57%	1.08%
	Employment	31,578	41,092	43,976	48,299	1.71%	1.08%	1.89%
Town of Mills River	Population*	--	5,717	6,784	7,162	--	1.51%	1.09%
City of Hendersonville	Population	7,284	10,420	13,137	13,814	2.59%	1.90%	1.01%

Clearly, traffic volume on N.C. 191 has no direct relationship to population growth in Henderson County generally, or Mills River and Hendersonville in particular.

Whatever growth models NCDOT relied upon when it came up with its 2040 forecast, those cryptic models have no obvious connection to historical traffic data or population data. NCDOT maintains that it relies on “French Broad River MPO data for future model growth based on projected land use projects.” One hopes that NCDOT and the MPO might someday reveal the secret sauce that goes into their extravagant forecast concoctions, which seem to have no discernible relation to reality.

* * *

Before concluding this analysis, we need to examine NCDOT’s track record regarding traffic forecasts. To my knowledge, NCDOT has never published any reports that compare its past traffic forecasts with actual *post facto* traffic data that would allow us to judge how well its predictions were borne out by the facts. However, NCDOT did produce two 2030 N.C. 191 forecasts, the first in the 2008 and the second in the 2017, a decade apart, which may provide some insight.

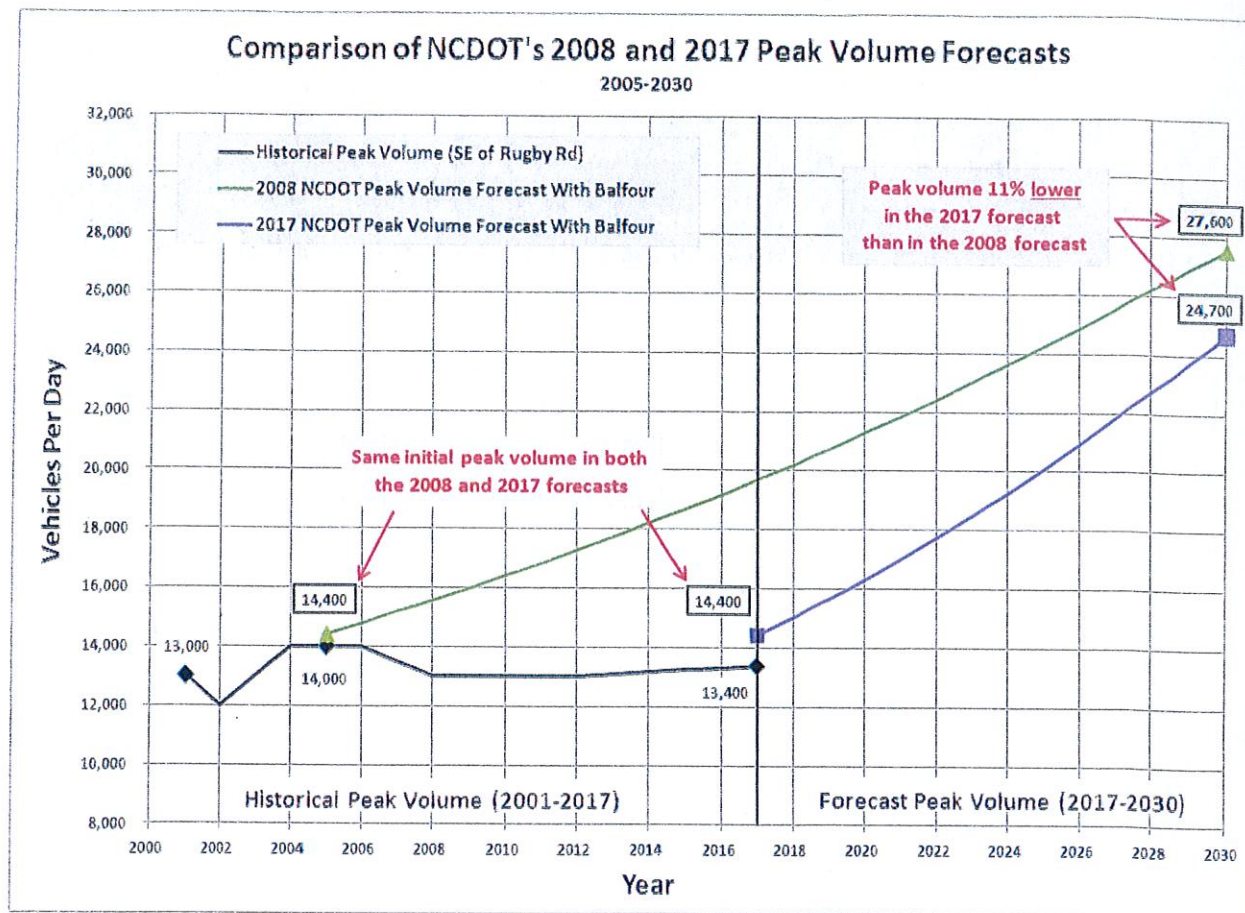
In NCDOT’s 2008 *Comprehensive Transportation Plan*, in which it recommended building the Balfour Parkway and widening N.C. 191 to four lanes, NCDOT predicted that the peak traffic volume on N.C. 191 would reach 27,600 vehicles per day (vpd) in 2030. However, in its 2017 “final” N.C. 191 report, NCDOT lowered its 2030 forecast from 27,600 to 24,700 vpd, a decrease of 11%. It’s unclear what happened in the intervening decade that led NCDOT to lower its 2030 forecast by that amount. Perhaps NCDOT realized that population growth rate had peaked and was declining. Or, perhaps NCDOT actually took into account the fact that between 2008 and 2017 peak traffic volume increased

²² NCDOT State TIP Project No. R-2588B Final Report, July 27, 2017, Table 1. Note that the 2000 and 2010 population totals differ slightly from the numbers reported by the US Census Bureau and the NC Office of Budget and Management as shown in the population graphs.

²³ NCDOT collected data between 2001 (10,959 vpd) and 2015 (11,232 vpd), which is a 2.5% increase. The highest volume (11,989) was in 2004-2006. These are weighted values based on the data reported in NCDOT State TIP Project No. R-2588B Final Report, July 27, 2017, Appendix A.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

hardly at all. Indeed, as shown on the graph below, NCDOT actually used the very same *initial* peak traffic volume – 14,400 vehicles per day – in *both* the 2008 and 2017 traffic forecasts.



NCDOT's rationale for widening N.C. 191 to four median-divided lanes is based entirely on its prediction of future traffic volume. However, the downward revision in NCDOT's 2030 traffic volume forecast, and the fact that NCDOT used the same initial traffic volume in its 2008 and 2017 forecasts, calls into question the accuracy of NCDOT's growth models, which, as we have seen, disregarded the actual traffic data that it collected between 2001 and 2015.

What conclusions can we draw from this analysis?

1. In formulating its traffic forecasts, NCDOT disregarded its own historical traffic data, which showed virtually no increase in traffic volume between 2001 and 2015. NCDOT has admitted this: "Whereas historical growth data are reviewed, it is not the primary factor of source material." If that's the case, then why did NCDOT even bother to collect traffic data?
2. The historical data indicates that there is no correlation between population growth and traffic volume. Between 2000 and 2015, the population of Henderson County increased by 26%, Mills River by 25%, and Hendersonville by 32%, whilst traffic volume on N.C. 191 during the same period increased by less than 3%.
3. NCDOT has a less than stellar track record when it comes to forecasting. In just the past decade, between 2008 and 2017, NCDOT reduced its 2030 N.C. 191 traffic forecast by 11%. Evidently, the closer we get to 2030, the lower the NCDOT 2030 forecasts become.²⁴

²⁴ NCDOT's downward revision of its 2030 forecast brings to mind the famous quote by physicist Niels Bohr: "It's difficult to make predictions, especially about the future."

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

NCDOT's plan to widen N.C. 191 to four median-divided lanes is based on its forecast of future traffic volume, which we are expected to accept *ex cathedra* as though it originated from some omniscient oracle. Sadly, when it comes to forecasting, NCDOT's track record leaves much to be desired. Moreover, in formulating its future traffic forecasts, NCDOT ignored its own traffic data, and instead relied on some mysterious "growth model" that evidently failed to predict N.C. 191 traffic volume between 2000 and 2015, when peak traffic volume increased by less than 3% during a period when the population of Henderson County increased nearly ten times faster.

N.C. 191 Traffic Safety

In its March 15, 2018 public meeting handout, NCDOT stated that the purpose of the N.C. 191 widening project "is to improve safety and mobility along N.C. 191."

The project corridor experiences congestion during peak traffic hours which is projected to worsen in the future (12,400 vehicles per day currently use the corridor on average). The corridor also has a very high crash rate (257 crashes per million vehicle miles), well above the statewide average (197 crashes per million vehicle miles). The majority of these accidents are rear end crashes.²⁵

Having previously examined the issue of mobility, in this section we will examine the safety issue by looking at the N.C. 191 historical crash statistics, which NCDOT published in July 2017.²⁶ However, before we look at the crash data in detail, several errors in the paragraph quoted above need to be noted.

First, NCDOT presented the crash rate as "crashes per *million* vehicle miles." In fact, the crash rate should be "crashes per *100 million* vehicle miles." This two-orders-of-magnitude error in a fundamental metric was probably just an innocent editorial mistake on the part of NCDOT.

Second, the "12,400 vehicles per day" statistic is not the *average* volume for the entire corridor, which is actually 11,800 vehicles per day, but the *peak* volume, which occurred only between Haywood Knolls Drive and West Henderson High School, a 0.14-mile stretch of the 4.52-mile-long N.C. 191 corridor. About 15% of the traffic on that stretch comes from Rugby Road. The traffic volume on most of N.C. 191 is less than 12,400 vehicles per day. For example, it is 11,700 vehicles per day between School House Road and Rugby Road and only 9,700 vehicles per day between Banner Farm Road and School House Road.²⁷ (See the graph at the bottom of page 19 for details.)

Finally, the "very high crash rate (257 crashes per [100] million vehicle miles)" mentioned in the NCDOT public meeting handout is wrong on two counts. First, the quoted crash rate is based on 11,000 vehicles per day,²⁸ not 12,400 vehicles per day as implied in the handout, in which case the crash rate would be 227 crashes per 100 million vehicle-miles, not 257. Second, the actual average daily volume is 11,800 vehicles per day, not 11,000 or 12,400, which means the actual crash rate is 239 crashes per 100 million vehicle-miles.

Between June 1, 2012 and May 31, 2017, there were 233 crashes in the R-2588B (N.C. 191) project corridor. The graph below shows the location of those crashes and the number of crashes at each location. The crash locations in the NCDOT report²⁹ are based on "milestones" – milestone 7.20 on the left side of the graph is the N.C. 280 intersection and milestone 2.78 on the right side is the Mountain Road intersection.

²⁵ *Proposed Widening of N.C. 191 from SR 1381 (Mountain Road) to N.C. 280 in Mills River, NC*. NCDOT, March 15, 2018.

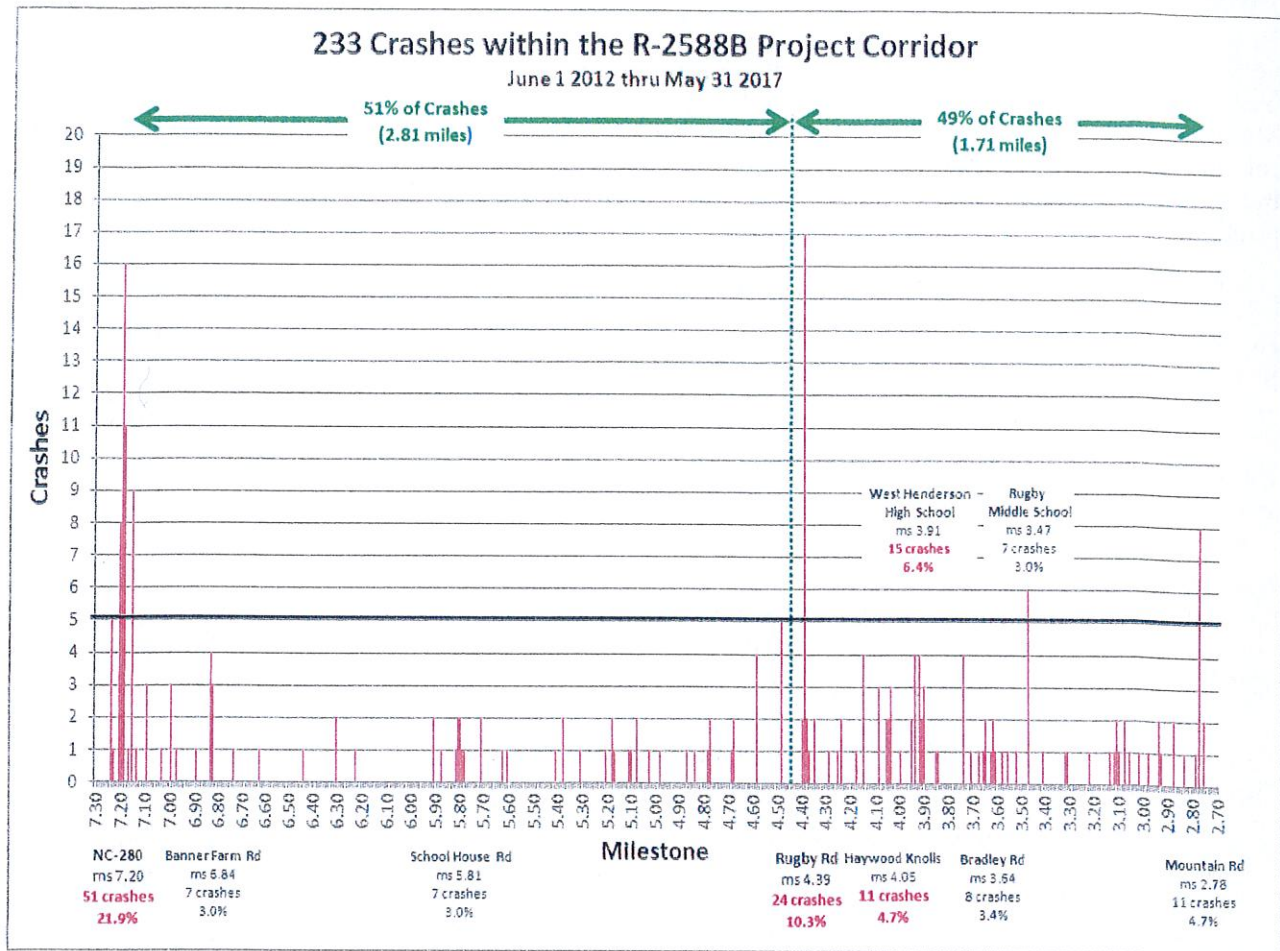
²⁶ *Traffic Engineering Accident Analysis System, Strip Analysis Report, NC 191 (Haywood Rd) from 250 feet east of SR 1381 (Mountain Rd) / SR 1444 (Leverette Dr) to 250 feet west of NC 280 (Boylston Hwy), 6/1/2012 through 5/31/2017*, NCDOT, July 17, 2017.

²⁷ The 2017 statistics are from *NCDOT State TIP Project No. R-2588B Final Report*, (2017) and are identical to those published in *Level Traffic Forecast NCDOT State TIP Project No. R-2588B*, (2018).

²⁸ *Traffic Engineering Accident Analysis System, Strip Analysis Report, NC 191*, (2017), p. 27.

²⁹ *Ibid.*

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

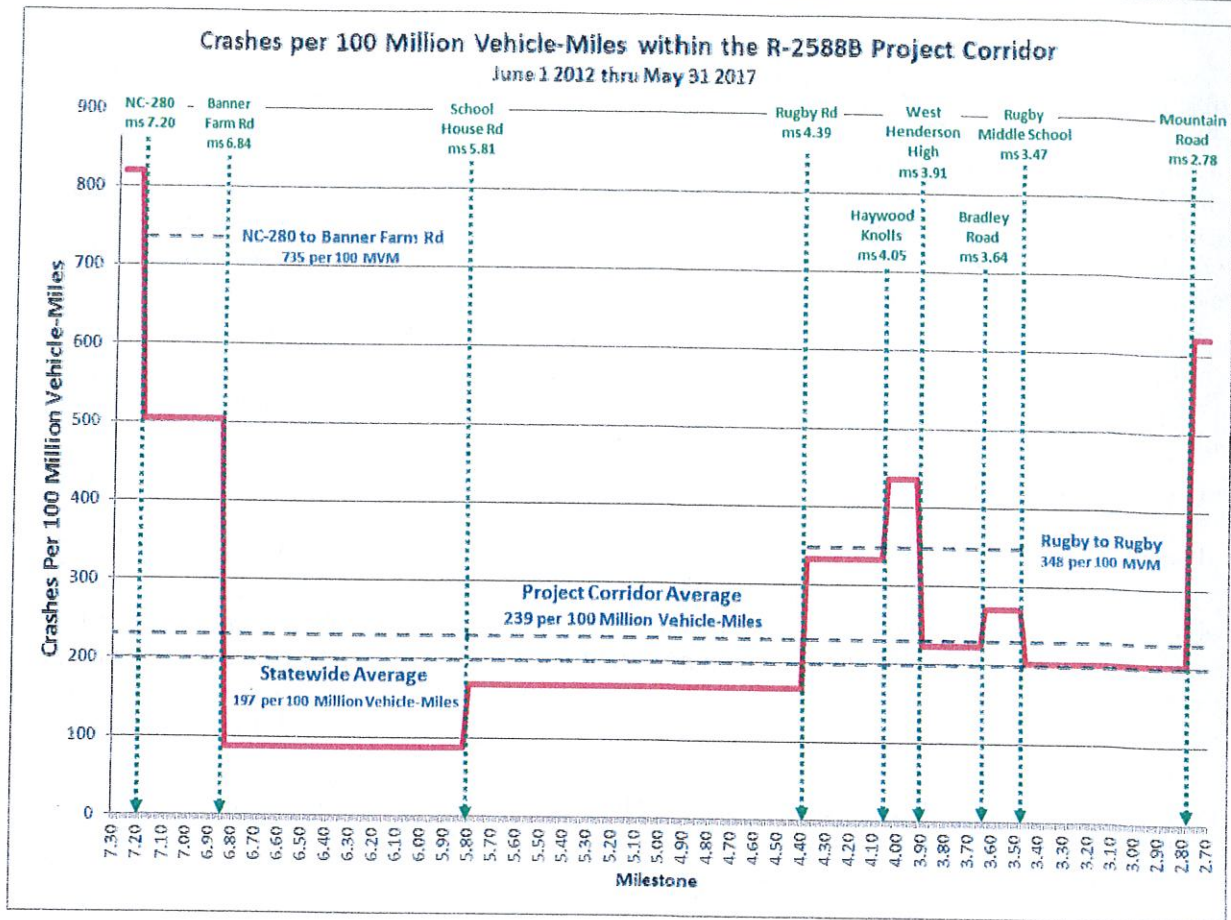


The graph presents *five years* of crash data collected by NCDOT. Accordingly, I have thickened the horizontal line at the five-crash mark, which is the equivalent of *one crash per year*. Any vertical red line that rises above the five-crash line indicates locations that averaged more than one crash per year.

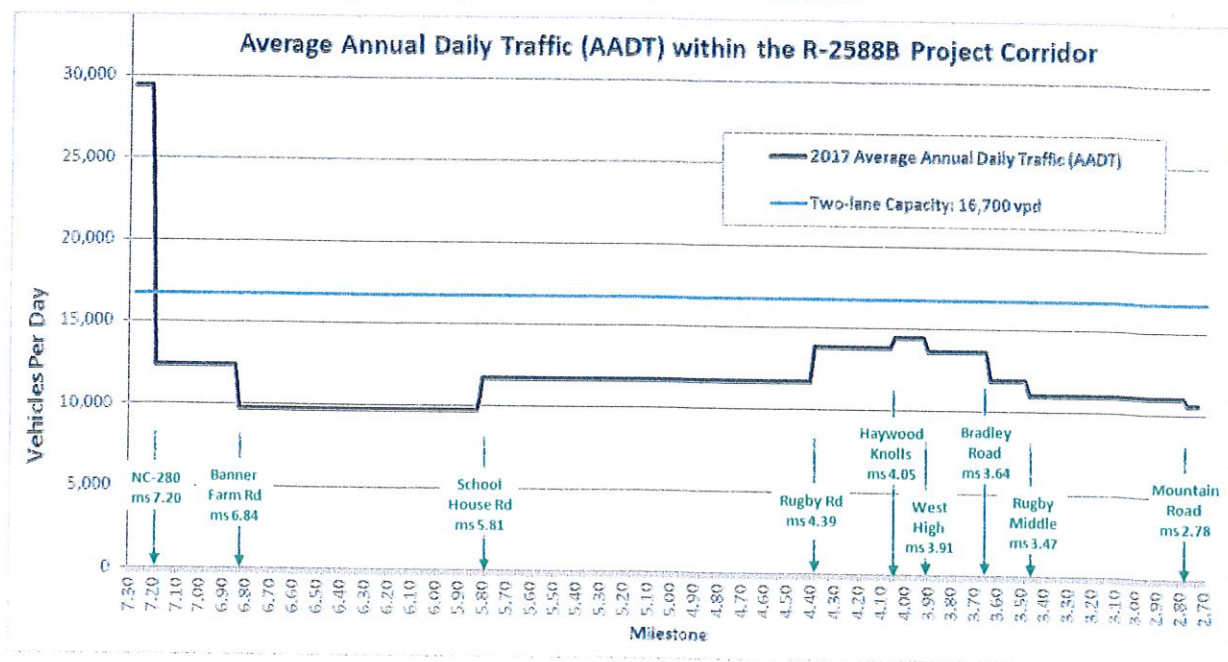
A moment's glance at the graph above shows where most of the crashes occurred – between N.C. 280 and Banner Farm Road, and between Rugby Road and Mountain Road. (The eight crashes at Mountain Road shown on the graph actually occurred outside the project corridor.) In contrast, relatively few crashes occurred between Banner Farm Road and Rugby Road. The numbers and percentages beneath each intersection at the bottom of the graph is the total number of crashes that occurred within ~260 feet (0.05 mile) of each intersection. Nearly 22% of the crashes occurred within 260 feet of the N.C. 280 intersection, about 10% occurred within 260 feet of Rugby Road, and about 6% within 260 feet West Henderson High School, which together account for more than a third of the crashes on N.C. 190.

The graph below recasts the historical crash data into NCDOT's preferred metric of *crashes per 100 million vehicle-miles*. This makes it even clearer where most of the crashes occurred: (1) between N.C. 280 and Banner Farm Road, where the crash rate was *735 per 100 million vehicle-miles*; and (2) between Rugby Road and Rugby Middle School, where the crash rate was *348 per 100 million vehicle-miles*. Both locations had a significantly higher crash rate than the N.C. 191 average of 239 crashes per 100 million vehicle-miles and the statewide average of 197 crashes per 100 million vehicle-miles. Note, however, that between Banner Farm Road and Rugby Road, and between Rugby Middle School and Mountain Road, two stretches that account for more than half the total length of the project corridor, the crash rate was at or below the statewide average. Thus, NCDOT's assertion that the N.C. 191 corridor "has a very high crash rate... well above the statewide average" is misleading and disingenuous.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan



Not surprisingly, the locations with the highest crash rates shown above – between N.C. 280 and Banner Farm Road, and between Rugby Road and Rugby Middle School – correspond very closely to the locations that have the highest daily traffic volume, as shown below.



Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

* * *

NCDOT's March 15, 2018 public meeting handout implied that the *entire* length of N.C. 191 experiences high traffic volume and crash rates and thus justifies NCDOT's plan to widen the *entire* roadway to four median-divided lanes. However, the NCDOT historical data show that high traffic volume and crash rates are actually limited to two relatively short stretches of N.C. 191 – between N.C. 280 and Banner Farm Road, and between Rugby Road and Rugby Middle School, a total of only 1.28 miles – which calls into question the need to widen the *entire* 4.52-mile roadway to four median-divided lanes. As an alternative, NCDOT could “improve mobility and safety” on N.C. 191 simply by widening those two stretches to four lanes without any significant widening of the rest of N.C. 191.

An additional eastbound lane between N.C. 280 and Banner Farm Road would provide more merging room for vehicles entering N.C. 191 from N.C. 280, thereby reducing the crash risk, and also provide a right-turn lane at the Banner Farm Road intersection. An additional westbound lane at this locale would provide a left-turn lane for vehicles turning south on N.C. 280.

Similarly, two additional lanes between Rugby Road and Rugby Middle School would provide turn lanes for vehicles entering West Henderson High School from both directions and Rugby Middle School for eastbound vehicles, which would improve the mobility of through traffic and reduce the crash rate.

All told, widening N.C. 191 to four lanes at those two locations would significantly improve vehicular mobility and reduce the crash rate along the *entire* length of N.C. 191, and without any need to widen the remainder of N.C. 191 to four lanes. Instead, NCDOT could “improve” the 2.45 mile stretch between Banner Farm Road and Rugby Road and the 0.69 mile stretch between Rugby Middle School and Mountain Road by widening the two extant lanes, adding shoulders, and possibly adding a middle two-way left-turn lane (TWLTL), as discussed below.

Unfortunately, instead of focusing on and fixing those two traffic “hot spots” – between N.C. 280 and Banner Farm Road and between Rugby Road and Rugby Middle School – NCDOT seems fixated on a “one size fits all” solution. According to NCDOT, “it is not standard practice to develop a roadway that volleys back and forth between two and four lanes, rather for safety and ease of movement it will be designed as a four lane consistent facility.”³⁰ If that's the case, then why is NCDOT proposing to widen N.C. 191 to four median-divided lanes only as far as Mountain Road and not all the way to U.S. 25-Business, a stretch of road (NCDOT Project R-2588A) that is largely within Hendersonville city limits and has higher congestion than N.C. 191 west of Mountain Road (see the map on page 9). One wonders whether political considerations had something to do with that decision.

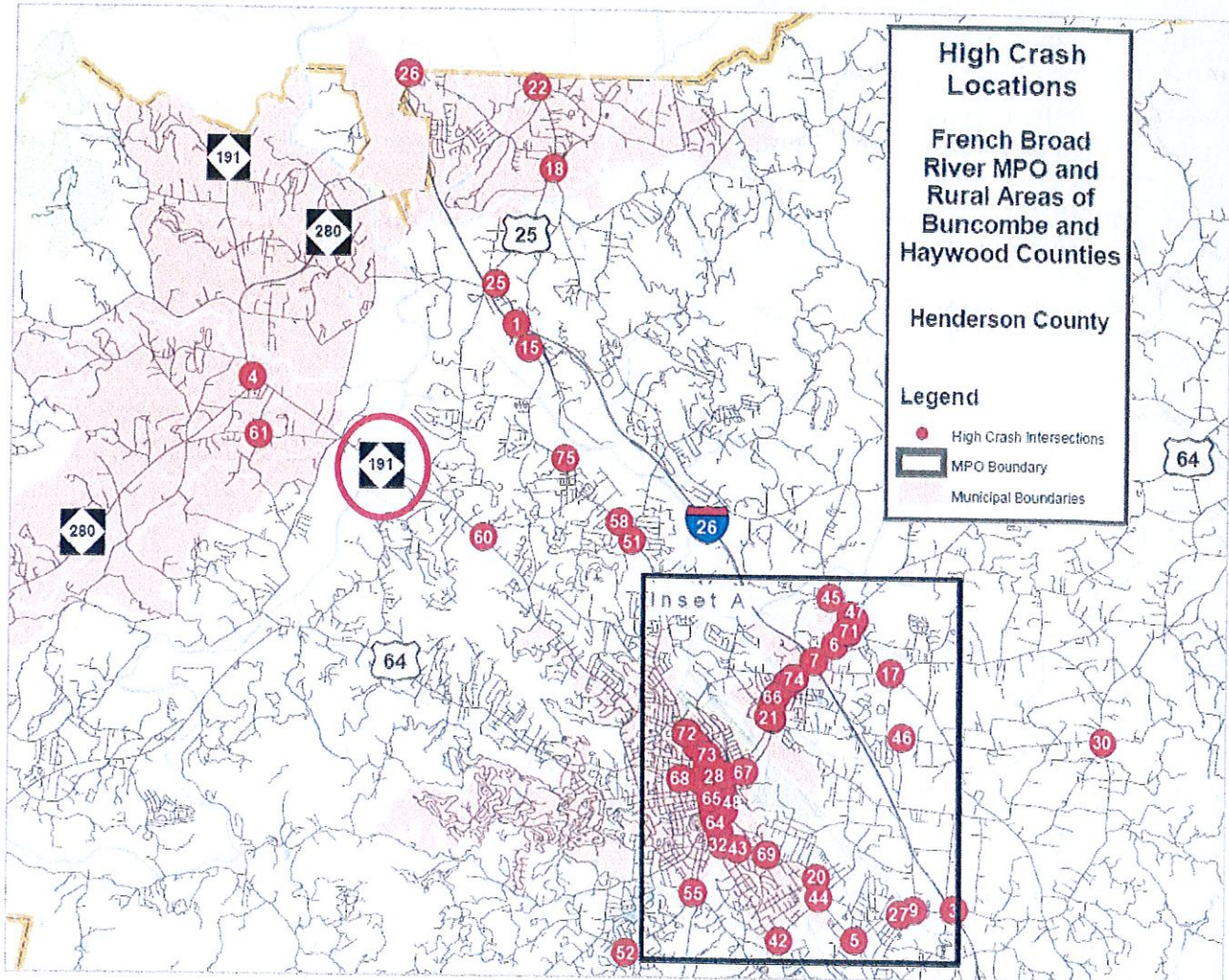
³⁰ E-mail to Erickson from J.S. Miller (NCDOT), December 18, 2018.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

Reducing Rear-End Crashes

In its March 15, 2018 public meeting handout, NCDOT reported that more than half the crashes on N.C. 191 are rear-end collisions. The NCDOT 2012-2017 crash data confirms this fact and indicates that rear-end crashes occurred along the entire length of N.C. 191 corridor.

In the public meeting handout, NCDOT claimed that N.C. 191 has a “significantly higher” crash rate than the statewide average. The map below, from the 2008 *Comprehensive Transportation Plan* (CTP), belies that claim. It shows that only *two* of the top 75 high crash locations in Henderson County were located on N.C. 191 – at the N.C. 280 intersection (4th highest) and at the Bradley Road intersection between West Henderson High School and Rugby Middle School (60th highest).³¹



In the CTP’s “Purpose and Need” statement justifying the proposed widening of N.C. 191 to four lanes, NCDOT made a point of mentioning that “the Bradley Road intersection has been averaging at least 5 crashes/year.”³²

The CTP was published in 2008, which means that the five-per-year crash rate at the Bradley Road intersection must have occurred before then. However, something evidently happened between 2008 and 2012 that significantly reduced the crash rate.

³¹ The high crash locations within the City of Hendersonville are so numerous that they required a separate inset, which is not shown here.

³² *Comprehensive Transportation Plan* (2008), p. 2-48.

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

According to the NCDOT 2012-2017 crash data there were only *eight* crashes within 260 feet of Bradley Road during that five-year period, which works out to *1.6 crashes per year*, whereas NCDOT reported *five crashes per year* in the 2008 CTP. (See the graph on page 18.) To what can we attribute this 68% reduction in the crash rate near the Bradley Road intersection?

At some point after 2008, NCDOT added a middle left-turn lane between Haywood Knolls Drive and Bradley Road for eastbound traffic, which reduced the number of crashes on that stretch of road. If the simple remedy of adding a middle turn land can reduce the crash rate by 68% at Bradley Road, then perhaps that remedy might also help reduce the crash rate elsewhere on N.C. 191.

* * *

Among the possible improvements to N.C. 191 that might reduce the number of rear-end crashes would be the addition of a middle two-way left-turn lane between Banner Farm Road and Rugby Road and other stretches that do not warrant four lanes.

According to the Federal Highway Administration (FHWA), installing a continuous two-way left-turn lane (TWLTL) on rural two-lane roadways can reduce the total number of crashes by 29% to 36%, and rear-end crashes by 36% to 47%.

TWLTLs added to two-lane roadways can be a cost-effective treatment for rural installations, particularly for the lower cost installations. ... Based on the conservative lower 95-percent confidence limit of the safety effect estimates, reductions of at least 29 percent, 19 percent, and 36 percent can be expected in total, injury, and rear-end crashes, respectively, at rural installations as presented in table 14.

Table 14 : Expected Crash Reductions for Rural Installations of TWLTLs
(Two- to Three-Lane Conversions).

Crash Type	Point Estimate	Standard Error	Conservative Estimate
Total Crashes	36.0%	3.5	29.1%
Injury Crashes	34.8%	8.0	19.1%
Rear-End Crashes	46.8%	5.4	36.2%

Note. The conservative estimates are based on the lower 95% confidence interval and are calculated as the point estimate minus 1.96 times the standard error.

From the analysis and logical considerations, locations with a high frequency of rear-end collisions, especially those involving a lead vehicle desiring to make a turn, would experience a greater safety benefit from this treatment and would be prime candidates for installing TWLTLs.³³

Given that approximately half the crashes on N.C. 191 are rear-end crashes, and using the FHWA's conservative estimate of crash reduction, adding a two-way left turn lane along the entire length of N.C. 191 could reduce the *total* number of crashes on N.C. 191 by 18%, which would lower the N.C. 191 crash rate from 233 crashes per 100 million vehicle-miles to as few as 192 crashes per 100 million vehicle-miles, which is below the statewide average.

³³ *Safety Evaluation of Installing Center Two-Way Left-Turn Lanes on Two-Lane Roads*, Federal Highway Administration, 2008, <https://www.fhwa.dot.gov/publications/research/safety/08042/index.cfm>

Why NCDOT Needs to Rethink its N.C. 191 Widening Plan

A Possible Alternative to NCDOT's Current Plan

NCDOT's current plan to widen N.C. 191 to four median-divided lanes, which it revealed at the March 15, 2018 public meeting in Mills River, was developed when the Balfour Parkway had already been funded and seemed inevitable. There is little doubt that had the Balfour been built it would have been necessary to widen N.C. 191 to four lanes in order to handle the Balfour Parkway traffic. (See the graph on page 8.) But public opposition killed the Balfour, which means that future traffic volume on N.C. 191 will be significantly less – 20% less according to NCDOT – than originally anticipated. Accordingly, NCDOT needs to rethink its N.C.191 widening plans and take a second look at the actual traffic conditions on N.C. 191 rather than remaining wedded to an obsolete plan that was predicated on the Balfour Parkway, or rigidly adhering to a “standard practice” that precludes any customization or nuance.

Based on the traffic volume and crash data presented herein, and also twenty years' experience of driving on N.C. 191, I propose the following as a possible alternative to NCDOT's current plan of widening the entire length of N.C. 191 to four median-divided lanes, an alternative that would – to quote NCDOT's March 15, 2018 public meeting handout – “improve mobility and safety along the N.C. 191 corridor.”

1. Widen N.C. 191 to four lanes between N.C. 280 and Banner Farm Road (0.36 miles). An additional eastbound lane between N.C. 280 and Banner Farm Road would provide more merging room for vehicles entering N.C. 191 from N.C. 280, thereby reducing the crash risk, and also provide a right-turn lane at the Banner Farm Road intersection. An additional westbound lane at this locale would provide a left-turn lane for vehicles turning south on N.C. 280
2. Widen N.C. 191 to four lanes between Rugby Road and Rugby Middle School (0.92 miles). Two additional lanes between Rugby Road and Rugby Middle School would provide turn lanes for vehicles entering West Henderson High School from both directions and Rugby Middle School for eastbound vehicles, which would improve the mobility of through traffic and reduce the crash risk.
3. Improve the remainder of N.C. 191 by (1) adding shoulders, which can be widened to right-turn lanes at intersections, and (2) adding a continuous two-way left-turn lane (TWLTL), i.e. a third middle lane. A TWLTL will be especially helpful in Mills River between Banner Farm Road and School House Road, where there are numerous commercial and agricultural establishments on both sides of N.C. 191. On those stretches of N.C. 191 between School House Road and Rugby Road where there are no commercial entrances or side streets, the middle lane might become a passing lane to allow autos to pass slow-moving trucks and tractors.

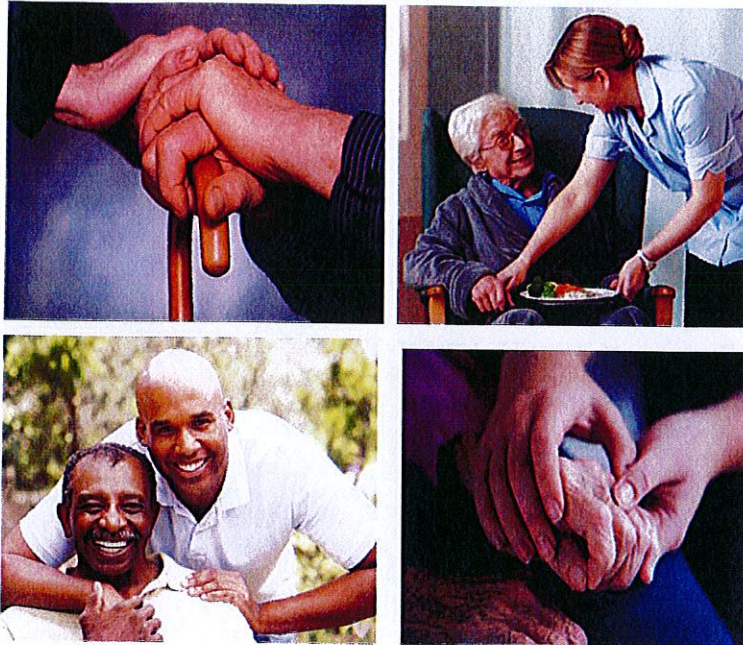
* * *

NCDOT should take heed of the editorial published eight days ago in the *Hendersonville Times-News*, which expressed a widely held view:

Although the Balfour Parkway is dead, many residents along N.C. 191 remain opposed to the N.C. Department of Transportation's plans to widen the highway from two to four and five lanes between Mountain Road and Mills River. DOT should respond to their concerns and better justify plans for multiple lanes, and explain why less disruptive measures won't suffice.³⁴

NCDOT's current plan to widen the entire length of N.C. 191 to four median-divided lanes (or five lanes within Mills River) was predicated on the Balfour Parkway, and was proposed when the Balfour Parkway was already funded and seemed to be a foregone conclusion. However, intense public opposition killed the Balfour Parkway, which rendered NCDOT's original N.C. 191 widening plan obsolete and overtaken by events. Many residents now oppose NCDOT's current plan to widen the entire length of N.C. 191 to four or five lanes. It is therefore incumbent on NCDOT to listen to the people of Henderson County, adapt to the post-Balfour reality, and rethink its N.C. 191 widening plan.

³⁴ “The public makes a difference,” *Hendersonville Times-News*, December 30, 2018.



2018 Aging Plan for Henderson County

Helping Seniors Maintain Desired Levels of Independence

**Prepared by the Council on Aging for Henderson County
March 2018**

2018 Aging Plan for Henderson County

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Executive Summary

65+ Demographic Highlights

U.S. Census data compiled by the NC Budget and Management Office indicates:

- 65+ residents make up 26% of the population of Henderson County
- The 65+ growth rate of 42% is more than double the overall county growth rate and will continue to be the fastest growing segment of county population
- The highest rates of growth within the County's 65+ population will be citizens 75 years or older
- In 20 years almost one in three county residents will be 65 years of age or older

Given the County's aging population, sustainable strategies are required to establish a livable and senior-friendly community by continuously evaluating what housing, healthcare, home care, socialization, transportation and other support services will be required to meet the diverse and changing needs of the County's seniors and their caregivers.

65+ Population Financial Profile Highlights

U.S. Census data compiled by the NC Budget and Management Office indicates 15% of Hendersonville's seniors live below 150% of the poverty level. County wide, the poverty level status is more acute and 27% of the 65+ population is living at poverty level or below. The economically challenged senior population is statistically more likely to have chronic health and mobility issues and greater difficulty accessing resources and support than their more affluent counterparts.

65+ Population Health Characteristic Highlights

In North Carolina, 65+ citizens represent a population susceptible to health-related issues that can impact their ability to live independently without support and assistance. Of the State's 65+ population:

- 37% have a disability
- 81% have at least one chronic disease
- 51% have 2 or more chronic diseases
- 29% reported a fall in the past year
- 24% have ambulatory difficulty (serious difficulty walking or climbing stairs)
- 16% have independent living difficulty (difficulty doing errands unassisted)

Source: NC State Health Center Statistics for 2012-16 Community Survey 2012-2016 five-year estimates

Illness or injury can suddenly increase lack of mobility and difficulty in fulfilling basic activities of daily living like meal preparation, washing and dressing and maintaining a clean and safe living environment. Access to information about healthcare and associated support services and assistance with accessing and navigating those services was viewed as a top need by the Core Advisory Group behind this report and the clientele they serve.

Senior Care Housing Resource Availability

- Senior living Arrangements
 - 43% live alone (81% female/19% Male)
 - 48% live with family
 - 6% live in Group Facilities
 - 3% Live with Non-Relatives

Source: Seniorcare.com: From US Census driven compiled in the 2011-2015 America Community Survey

An increasing percentage of seniors live alone. Lacking a healthier, more capable partner and/or a network of helpful neighbors and caring family members, older residents living alone can end up feeling

isolated, unable to do basic errands or keep up their property without assistance. The support services these seniors rely on to maintain their desired level of independence are expected to grow.

According to a 2015 housing study by the Bowen National Research Group, there are acknowledged deficiencies throughout the county in the availability of affordable Senior Care Housing alternatives. The study estimates that there will be 1,017 households with a person requiring assisted services that will not have their needs met by existing or planned senior care facilities by the year 2020.

The Bowen Study also identifies a shortage of multi-family housing within the county. Multi-family housing is essential to meet the needs of people who provide support services to seniors. Seniors themselves also need accessibility to affordable housing alternatives like multi-family housing.

Recommendations

After reviewing the characteristics and implications outlined in Section 2 of this document, the Core Advisory Group (CAG) identified five (5) core categories of need which are explained in more detail in Section 3 of this document.

- Improved mechanisms for accessing senior service resources
- Improved transportation options for older citizens
- Increased availability of home-based programs that assist seniors in maintaining desired levels of independence (e.g. Meals on wheels, In-Home Aide, etc.)
- Increased availability of home improvement/modification programs to help seniors maintain safe, healthy, livable environments
- Expansion of socialization opportunities for older citizens

Section 1: Introduction

1.1 Background and Purpose

The “Silver Tsunami” is here. In the United States, over 10,000 Baby Boomers reach the age of 65 every single day and at least one-quarter of today’s 65-year-olds will live past the age of 90. U.S. Census data compiled by the NC Budget and Management Office indicates that North Carolina ranks number nine nationally in the number of residents 65 and older. Henderson County ranks in the top ten of the 28 North Carolina counties in terms of the 65+ population as a percent of total population.

Henderson County residents age 65 and older make up 26% of the total population, compared to 15% of total population statewide. More than one in four Henderson County citizens is 65 years old or older. Over the next 20 years the 65+ population in Henderson County is expected to grow by more than 40% and at that time one in three county residents will be 65 or older. In Henderson County, challenges of the 65+ population are characterized by the following facts:

- 25% live alone
- 2.6% live in group quarters
- 27% are at poverty level or below 100-199% poverty level
- 32% have at least one or more disability
- On the state level, 82% have at least one chronic disease and 54% have two or more.

Source: NC Office of State Budget and Management, county estimates and projection

The 2015 Henderson County Community Health Assessment identified the aging population as a “population at risk.” Taken in the aggregate, the County’s 65+ population is highly susceptible to health and wellness issues that pose direct challenges to their ability to:

- Fulfill the eight activities of daily living required for independent living
- Maintain the mobility and access to transportation required to obtain resources they need to achieve desired levels of independence
- Navigate and manage the increasing logistical, financial and emotional complexities associated with changing needs as they age

The Henderson County Community Health Assessment indicates that regardless of income level, the 65+ population in Henderson County is more prone than any other demographic segment to be isolated and to require significant and increasing levels of medical care, nursing care, and support services like Meals on Wheels and home care assistance.

Recognizing the unique needs and challenges of seniors, communities across the country have been engaged in deliberate efforts to plan for meeting the needs of their aging residents. North Carolina, in its summary report to the 2005 White House Conference on Aging, specifically committed to establishing itself and its communities as livable and senior-friendly.

The Council on Aging for Henderson County (COAHC) is the acknowledged source of access for senior services in Henderson County and in 2008, the Board of Commissioners designated COAHC as the lead agency for assisting the senior population in the County. As a result of its integral role in coordinating and managing the needs of seniors in Henderson County, the Land of Sky turned to COAHC to develop a 2018 Aging Plan for Henderson County.

1.2 Methodology/Scope

The healthcare challenges and resource needs imposed by the region's aging population have been identified in prior studies by entities such as Land of Sky Regional Council, the Henderson County Partnership for Health and COAHC. In preparing this document, COAHC utilized information from these studies as well as state, county and city statistical data. COAHC also relied on empirical data accumulated through interactions with the senior population it serves.

COAHC also received input from a Core Advisory Group (CAG). The CAG is comprised of representatives from agencies that provide services and advocacy to seniors in the county including:

- AARP
- Blue Ridge Bike Club
- Carolina Village
- City of Hendersonville
- Henderson County DSS
- Henderson County Library
- Henderson County Parks and Recreation
- Henderson County Partnership for Health
- Land of Sky
- NC Works Career Center/VA
- Pardee Hospital
- Park Ridge Home Health
- Premier Home Health
- United Way
- YMCA

The CAG contributed statistical information and client input from their respective agencies that helped in identifying and validating the key issues and areas of need identified in this report. Select members of the CAG will also remain intact to guide and track the Aging Plan implementation and assure the Aging Plan's advocacy to the various City and County decision making bodies that can help advance the plan's recommendations.

As a result of this multi-agency approach, the conclusions summarized in this document reflect a wide range of thinking and consensus on senior needs in Henderson County and the specific initiatives required to address those needs.

The Aging Plan on the following pages is divided into two parts:

- Section 2 uses community feedback (CAG and respective clientele), demographic, financial and health data to identify the unique characteristics of the aging population in Henderson County and the key implications of these characteristics as they relate to resource needs.
- Section 3 identifies the recommended actions required to address the implications identified in Section 2 and the specific initiatives required in assuring the needs of Henderson County seniors are being addressed.

The issues and implications outlined in the Aging Plan will provide a decision-making framework that will help COAHC move forward in a focused manner in addressing the needs of the population it serves.

Section 2: Henderson County Senior Population Highlights and Implications

2.1 Overview

The COAHC researched and compiled data from a variety of sources to better understand the unique characteristics and challenges of the senior population in Henderson County. The information outlined in the following sections summarizes key characteristics and implications.

2.2 Henderson County 65+ Population and Growth Rate

In 2017 Henderson County was in the top ten of 28 North Carolina counties in terms of the 65+ residents as a percent of total population. The County's median age is 47 years old (vs. statewide median of 38 years) and one in four Henderson County residents are 65 years of age or older.

According to U.S. Census data compiled by the NC Budget and Management Office:

- Individuals age 65 and older make up 26% of the population, compared to 15% statewide.
- The number of Henderson County 65+ population is and will continue to be the fastest growing segment of county population. The 65+ 20-year growth rate of 42% is more than double the overall growth rate of the county.
- In 20 years almost one in three residents will be 65 years of age or older.

<i>Henderson County</i>				<i>2016-26 Growth Rate</i>		<i>2016-36 Growth Rate</i>		<i>% of Population</i>		
	<i>2016</i>	<i>2026</i>	<i>2036</i>	<i>Rate</i>	<i>Rate</i>	<i>2016</i>	<i>2026</i>	<i>2036</i>		
0-19	24,381	24,634	26,844	1%	10%	21%	20%	20%		
20-44	29,609	33,121	35,791	12%	21%	26%	26%	26%		
45-64	30,612	31,408	32,111	3%	5%	27%	25%	24%		
65+	29,204	36,644	41,503	25%	42%	26%	29%	30%		
Total	113,806	125,807	136,249	11%	20%	100%	100%	100%		
<i>North Carolina</i>				<i>2016-26 Growth Rate</i>		<i>2016-36 Growth Rate</i>		<i>% of Population</i>		
	<i>2016</i>	<i>2026</i>	<i>2036</i>	<i>Rate</i>	<i>Rate</i>	<i>2016</i>	<i>2026</i>	<i>2036</i>		
0-19	2,596,433	2,685,136	2,866,726	3%	10%	26%	24%	23%		
20-44	3,335,589	3,663,019	3,945,715	10%	18%	33%	33%	32%		
45-64	2,667,001	2,750,059	2,895,106	3%	9%	26%	25%	24%		
65+	1,559,452	2,124,027	2,564,717	36%	64%	15%	19%	21%		
Total	10,158,475	11,222,241	12,272,264	10%	21%	100%	100%	100%		

Source: NC Budget and Mgmt.

2.3 Henderson County 65+ Population Breakdown

Within the County's 65+ age group, the highest rate of growth will be in citizens 75 years or older. These "Super Seniors" require statistically higher amounts of assistance and resources than their younger 65+ counterparts.

<i>Henderson County</i>	<i>2016</i>	<i>2026</i>	<i>2036</i>	<i>2016-26 Growth Rate</i>	<i>2016-36 Growth Rate</i>
65-74	15,796	17,946	18,749	14%	19%
75-84	9,341	13,564	15,285	45%	64%
85-99	4,038	5,029	7,313	25%	81%
100+	29	105	156	262%	438%
	29,204	36,644	41,503	25%	42%

Implications

So, what does the growing senior population mean to Henderson County? Given the County's aging population, sustainable strategies are required to establish a livable and senior-friendly community. AARP, in its report to the nation on livable communities, states that a Senior Friendly Livable Community is one that provides:

- Appropriate and affordable housing that accommodates people of all ages with disabilities
- Adequate options for mobility including point to point transportation that is safe, efficient and accessible
- Various community features that can facilitate personal independence and engagement in the community and opportunities for older people to remain active in their community

Planning for current and future needs requires continuous evaluation of housing, healthcare, home care, socialization, transportation and other support services available to meet the diverse and changing needs of the County's seniors.

2.4 65+ Population Financial Profile Highlights

US Census information from 2016 indicates that 10% of the nation's 65+ population is in poverty. Without the supplemental income provided by Social Security more than 14% would be in poverty. Older women are more likely than men to be living in poverty, and that gap widens in those over 80.

The most detailed data for the financial profile of local seniors come from Seniorcare.com whose data is compiled from the US Government Census, 2011-2015 American Community Survey. Though compiled for the city of Hendersonville, the information can be used as a proxy for seniors within the county. In the city of Hendersonville, the Seniorcare.com information indicates:

- The median household income for a Hendersonville Senior is \$40,039
- The average Social Security income is \$17,568/year
- 15% of the 65+ population is classified as at poverty level or below 150% of poverty level
- 24% of 60+ residents received food stamps in the last year

In the city of Hendersonville, an estimated 15% of seniors are at poverty level or below 150% of poverty level. In 2017, poverty level is defined as individuals with income of \$12,060 or less. County wide, the poverty level status is more acute. 2016 NC Office of State Budget and Management data indicates that 27% of county seniors are at poverty level or below 100-199% poverty level.

The economically challenged senior population is statistically more likely to have chronic health and mobility issues than their more affluent counterparts. They are also more likely to live alone with fewer financial resources available to address basic needs. Economically challenged seniors are also more likely to have difficulty:

- Affording out of pocket costs for doctor visits, medication for chronic conditions, and other essential senior healthcare needs
- Accessing safe, reliable transportation when required for maintaining their household or addressing medical needs
- Accessing information about resources and services available in helping navigate personal needs
- Accessing assistance as required in managing activities of daily living, and maintaining their homes

It is important to note that the financial conditions of seniors above poverty level can and often do change rapidly due to sudden illness and the associated increase in out of pocket healthcare costs, sudden need to provide for children, grandchildren or relatives, loss of income, etc. Senior resource needs driven by financial necessity are only expected to increase as the county population ages.

Implications

Access to information about support services was viewed as a top need by the CAG and their clientele. Economically challenged seniors can require support and assistance on multiple levels including:

- Accessing reliable transportation
- Managing expenses and bills
- Accessing and managing health services and medications
- Maintaining a safe and livable home environment
- Meeting needs as life and health conditions change

2.5 65+ Population Health Characteristic Highlights

In North Carolina, 65+ citizens represent a population susceptible to health-related issues that can impact their ability to live independently without support and assistance. Of the State's 65+ population:

- 37% have a disability
- 81% have at least one chronic disease
- 51% have 2 or more chronic diseases
- 29% reported a fall in the past year
- 24% have ambulatory difficulty (serious difficulty walking or climbing stairs)
- 16% have independent living difficulty (difficulty doing errands alone)

Source: NC State Health Center Statistics for 2012-16 Community Survey 2012-2016 five-year estimates,

Illness or injury can suddenly increase lack of mobility and difficulty in fulfilling basic activities of daily living like meal preparation, washing and dressing and maintaining a clean and safe living environment. Seniors that become suddenly ill or injured, often find themselves unprepared to navigate and manage the logistical, financial and emotional complexities associated with their sudden need for medical care and support. For seniors lacking the support of family, caregivers or access to other forms of assistance, managing their needs on their own can be a daunting task. Additionally, medical costs can strain financial resources which in turn make it increasingly difficult to:

- Maintain proper nutrition and housing
- Obtain necessary support services
- Pay for healthcare and drugs

Implications

Access to information about healthcare and associated support services and assistance with navigating these services was viewed as a top need by the Core Advisory Group and the clientele they serve. For seniors, managing their healthcare needs may require support and assistance on multiple levels including:

- Accessing reliable transportation
- Assistance in managing and making decisions regarding medical treatment
- Assistance in managing medical expenses and bills
- Managing support services that help with activities of daily living and/or at-home medical needs

2.6 65+ Population Housing and Living Highlights

The Seniorcare.com data compiled from the US Government Census driven, 2011-2015 American Community Survey for the City of Hendersonville provides insight into the housing status of city seniors.

- Senior living Arrangements
 - 43% live alone (81% female/19% Male)
 - 48% live with family
 - 6% live in Group Facilities
 - 3% Live with Non-Relatives
- Senior Home Ownership
 - 39% rent
 - 53% of renters spend 30% or more of their income on homeowner costs
 - 61% own
 - 20% of homeowners spend 30% or more of their income on homeowner costs
- Home Age (Owned)
 - 28% built before 1970 (home is more than 47 years old)
 - 29% built before 1990 (home is 27-47 Years old)
 - 43% built after 1990

The need for affordable housing is a real need that has been well documented in previous Aging and Health and Wellness studies. In the next section of this report (Section 2.7) acknowledged County deficiencies in the availability of affordable Senior Housing alternatives will be discussed.

But “senior housing problems” must also take into account the fact that changes in life and health conditions related to aging can result in temporary or long-term inability to live independently without assistance. For example, seniors who find themselves incapacitated by a health condition may find themselves suddenly unable to clean and maintain their home properly, use bathrooms without assistance due to lack of safety features like grab bars, or access areas of the house because of stairs or lack of ADA compliant doorways.

For this group of seniors, housing needs are not related to availability of alternatives to their current living conditions but instead, the need for services that allow them to successfully age in their own homes if they so desire. The Aging Plan recommendations must address the services and resources required to assist seniors in living successfully in their homes as life and health conditions change.

Implications

- Lacking a healthier, capable partner and/or a network of helpful neighbors and caring family members, older residents living alone can end up feeling isolated, unable to do basic errands or keep up their property. As a result, seniors living alone are institutionalized at higher rates than seniors residing in multi-person households.

Implications (Continued)

- A high percentage of seniors live by themselves. For seniors who own homes, those homes are aging. Roughly 57% of seniors live in owned homes that are over 27 years old and these homes will require increasing levels of maintenance and repair as they age.

The 2008 recession affected many seniors. Overall home ownership rates declined but remained constant for Americans over 65. Many county seniors remain in aging homes due to personal preference; financial circumstance and/or lack of adequate supplies of alternative senior housing (discussed in next section of this report). As county senior's age, the care and maintenance of homes whether rented or owned poses an increasing challenge both physically and financially.

It is increasingly important that seniors have access to affordable services that allow them to age successfully at home. Empirical information from Council on Aging and CAG clients indicate the need for:

- At-home support services (Meals on Wheels, caseworkers, home care providers, etc.)
- Support and respite care for caregivers providing at-home assistance
- Easier one-stop access to information about support services that will help them maintain desired levels of self-sufficiency
- Access to affordable assistance in maintaining a safe environment in which to live
- Access to affordable, timely, and reliable transportation

2.7 Senior Care Housing Resource Availability

The 65+ growth rates identified in Section 2.2 indicate the need for appropriate levels of housing to meet the needs of county seniors and the people who will be required to support them. The Land of Sky enlisted the Bowen National Research group in 2015 to evaluate the availability of multi-family apartments and senior care housing in the county.

	<i>2015 Vacancy Rates</i>
Multi Family Apartments	2.40%
Senior Care Housing	3.50%
Independent Living	1.20%
Multi-Unit Assisted Living	1.10%
Adult Care Homes	10.10%
Nursing Homes	1.90%

Source: 2015 Bowen National Research

The Bowen study concluded that Henderson County has a senior care housing vacancy rate of 3.5%. The 3.5% vacancy rate is considered low and the study estimates that there will be 1,017 households with a

person requiring assisted services that will not have their needs met by existing or planned senior care facilities by the year 2020.

The study also indicates there is a 2.4% vacancy rate of surveyed multi-family rental housing. The shortage of multi-family housing within the County impacts seniors in two ways: first, affordable multi-family housing is essential to meet the needs of people who provide support services to seniors. Second, seniors themselves need affordable housing alternatives. As a result of the high expected growth rate of the aging population, Henderson County can expect increasing demand for senior and affordable housing.

Average Monthly Cost of Long Term Care Services in North Carolina	
<i>Care Type</i>	<i>North Carolina Avg.</i>
Home Health Care (8 Hours/week)	\$632
Home Health Care (44 hours/week)	\$3,476
Adult Day Care (Weekends only)	\$1,105
Homemaker Services (44 hours/week)	\$3,337
Assisted Living	\$3,000
Nursing Home (Semi-Private - double occupancy room for one person)	\$6,266
Nursing Home (Private - single occupancy room for one person)	\$6,844
<i>Data from Genworth Long Term Care Costs & Cost of Care in 2015</i>	

In North Carolina, the average monthly cost of assisted living and nursing home care ranges from \$3000 to over \$6800 per month. There are seniors who do not currently qualify for Medicaid assistance and who cannot afford senior housing without assistance. An important part of the aging plan is thinking about how the needs of this population can be met affordably at home. Programs like Meals on Wheels and Housing Assistance are vital in helping the senior population age in place. Additionally, increases in the county allocation of state funding directed toward home-based services is required to actively support aging at home and ease the number of seniors requiring institutional care.

Implications

- Low vacancy rates for senior care housing indicate there is a lack of alternatives for seniors who find it increasingly difficult to live in their homes (rented or owned) without assistance. Seniors will need access to available and affordable resources that allow them to age successfully at home. The growing population of seniors aging in their homes will drive an increased need for support services that assist them with nutrition, management of basic activities of daily living, home care, home maintenance, transportation, and socialization.
- Aging in place strategies also require access to assistance with home modifications that can compensate for functional impairments. Such modifications range from the installation of grab bars and easy-to-grasp doorknobs and bathrooms and kitchens that have been remodeled to accommodate wheelchair use.

Section 3: Recommendations

After reviewing the characteristics and implications outlined in Section 2, the Core Advisory Group (CAG) recognizes that Henderson County has a senior population that, regardless of socioeconomic status, will require increasing and expanding levels of assistance as they age. The CAG identified five (5) core categories of need which are explained in detail in this section:

- Access to information and resources
- Transportation
- In-home support services
- Housing
- Opportunities for socialization

The CAG recognizes that for a plan to be attainable and achievable ALL needs should be recognized with the understanding that certain priorities and initiatives can only be addressed if championed at the right organizational or government level. The CAG recognizes the fact that the responsibility for addressing needs outlined in this aging study tend to fall into two categories:

- Agency Level Advocacy: These are needs that can and should be championed and addressed on the organizational/multi-organizational level providing adequate funding/resource needs and any requisite county support needs are addressed.
- Community Level Advocacy: These are needs that require broad level City/County support to achieve (e.g. affordable housing). In effect these needs need to be initiated and championed on the City or County Level. Many of the AARP Age-Friendly Community objectives fall into this category.

It should also be noted that previous aging studies have identified the need for an increase in affordable housing and housing alternatives designed specifically for seniors. The CAG recognizes the need and the efforts of the County and private entities in expanding these options. Regardless, the CAG also recognizes the fact that many of the County's seniors, for the reasons stated in section 2.7 of this report, will lack a credible alternative to living in their own homes whether rented or owned. As indicated in Section 2.6 of this report, the CAG also recognizes the fact that these homes are aging, and the demands of maintenance and upkeep will become more acute as these residents age. For these reasons the CAG is focusing the 2018 Aging Plan recommendations on initiatives that help residents age successfully in their homes for as long as they desire and/or until viable housing alternatives emerge.

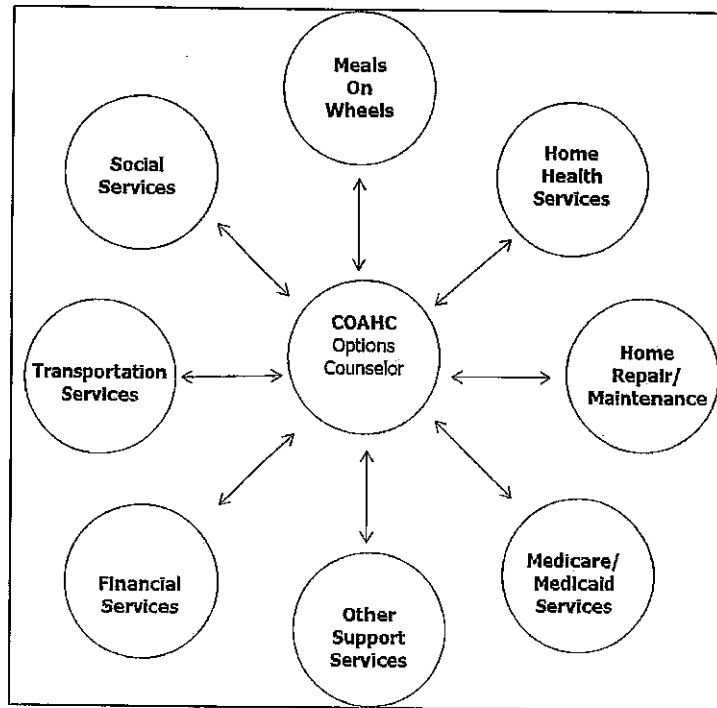
3.1 Access to Information and Resources

The CAG feedback indicates that despite the availability of 211, senior services publications and various resource agencies, there is still a high degree of confusion among senior residents and family members regarding the extent of programs available and how to utilize them.

Additionally, CAG input resulted in the conclusion that there is a need for an integrated model where a single phone call or site visit can be used to provide:

- In-depth assessment of an individual's needs
- Counseling on available services and resources
- Assistance in accessing necessary programs and services required to address needs
- Follow-up to make sure all needs are being addressed

The Council on Aging for Henderson County (COAHC) is the acknowledged source of access for senior services in Henderson County. As a result of its integral role in coordinating and managing the needs of seniors in Henderson County, the CAG has proposed the development of a "Hub and Spoke" model where the COAHC becomes the acknowledged "Go-To" point for seniors and their families seeking information and assistance.



To support its central role in the "Hub and Spoke" model, COAHC proposes the creation of a new position. The proposed Options Counselor will be responsible for assessing client needs and assisting in the development of an action plan for addressing those needs. A description of the Options Counselor role/responsibilities and qualifications as currently envisioned can be found in Appendix A.

The single point of access/single phone number approach can be easily marketed and promoted by the County, City, Tourism Bureau, local real estate brokers, healthcare providers, and other entities that interact with seniors and their families.

Access to Information: Agency Level Advocacy

- A key goal of the COAHC is to strengthen and expand its relationships with other agencies and entities that provide assistance to seniors. A component of this strategy is to work closely with these agencies to explore opportunities to manage the needs of seniors and their families in a comprehensive, coordinated manner.
- The COAHC will explore the feasibility of developing a “Hub and Spoke” delivery model intended to simplify access to information about senior resources throughout the County. In this model, the COAHC will provide resources to assess and coordinate senior’s needs, direct them to the appropriate resources, assist them in navigating those resources, and assess how their needs are being met.
- To facilitate its role in the development of the “Hub and Spoke” model, COAHC will develop a new Options Counselor position. A description of the Options Counselor role/responsibilities and qualifications as currently envisioned can be found in Appendix A.

Access to Information: Community Level Advocacy

- The COAHC and CAG would like the support of the City and County in developing the “Hub and Spoke” model. Specific support would come in the form of the County Commissioners and City officials:
 - Recognizing the proposed “Hub and Spoke” delivery approach as a model that distinguishes and differentiates the county and city in how they address the needs of senior residents.
 - Promoting the “Hub and Spoke” model as a distinguishing attribute and community asset in all County and City messaging platforms.
 - Supporting the ongoing efforts to improve the “Hub and Spoke” model by including the approach in future planning related to addressing needs of seniors.

3.2 Transportation

Nearly a quarter of Americans over age 65 don't drive—a share that increases as an individual ages. Lack of access to convenient transportation is a major contributor to missed health care appointments. Lack of access to transportation also makes it difficult for older people to participate in civic and social life, access services, volunteer opportunities, or jobs.

Apple Country Transit, Henderson County, and NCDOT have been working together to improve transportation infrastructure and expand public transit routes throughout the county. Primarily, the services cover three modes of public transportation

- Fixed-route transit - a transportation service operating along a prescribed route according to a fixed schedule (Apple Country Transit)
- On-demand transit – a transportation service operated without a fixed route or schedule, or with a route and/or schedule that is flexible according to customer request (FISH of Henderson County)
- ADA paratransit - a transportation service that is complementary to a fixed-route service, usually operating on a demand response model, available to customers within ¾ mile of a fixed route service who are unable to use it due to disability

Due to health issues and decreasing mobility, public transportation becomes increasingly difficult to access as people age. Even though bus transportation provides accessible seating and stations with shade or benches, many connections still require long walking distances and/or crossing dangerous roads to access stops. As good as it is, Henderson County's fixed route transit system cannot respond adequately to all senior limitations and needs.

The CAG has identified the need for expansion of Door-to-Door concierge type transport services to meet the personal needs of seniors for whom available public transportation options are inadequate and/or for whom the cost of taxi or other fee for service models is not feasible.

Transportation: Agency Level Advocacy

- As part of the previously defined "Hub and Spoke" Model, COAHC will be a central point in assisting individuals in accessing transport options that meet their needs.

Transportation: Community Level Advocacy

- Creative efforts on the part of the County and City are required to expand transportation opportunities for older adults above and beyond those defined by the current public transportation system. This will include:
 - Evaluating the demand for senior transportation needs not met by the public transportation system (e.g. taxi vouchers, expansion of FISH of Henderson County) to meet unmet needs
 - Continuing to improve the accessibility of fixed route transit
 - Continuing ongoing development of the Greenway Plan
 - Continuing to improve the Comprehensive Pedestrian Plan to expand walkable access to grocery stores, pharmacies and medical providers

3.3 In-Home Support Services

As indicated in section 2.6, an increasing number of seniors aging in their homes will drive an increase in the need for support services that assist them with nutrition, management of basic activities of daily living, home care, home maintenance, transportation, and socialization.

At a minimum, increases in County allocation of state funding directed toward home-based services is required to actively support aging at home and ease the number of seniors requiring institutional care.

Globally, changes in Medicare and Medicaid funding directed toward home-based services are needed at the county, state and federal level. The County can encourage a balance between medical and social services by ensuring that unrestricted funds are directed to social support services that are not currently reimbursed through Medicare, Medicaid and private insurance plans.

Effective case management and advocacy are critical to help people achieve a continuum of care sufficient to meet their needs. Seniors and their family members who have interacted with the COAHC have expressed frustration in trying to find services. Even when services are located, seniors often require ongoing assistance in navigating and managing the services they receive.

In-Home Support Services: Agency Level Advocacy

- As part of the "Hub and Spoke" Model, COAHC will be a central point in disseminating and linking individuals to the resources they require to achieve a continuum of care sufficient to meet their needs.
- The COAHC will strengthen and expand its relationships with other agencies and entities that provide assistance that allows seniors to achieve their desired level of independence. COAHC will work closely with agencies that assist with basic activities of daily living, home care, home maintenance, transportation and socialization to explore ways to manage the needs of seniors in a comprehensive, coordinated manner.

In-Home Support Services: Community Level Advocacy

- The County can encourage a balance between medical and social services by ensuring that unrestricted funds are directed to social support services that are not currently reimbursed through Medicare, Medicaid and private insurance plans.
- At a minimum, increases in the county allocation of state funding directed toward home-based services is required to actively support aging at home and ease the number of seniors requiring institutional care.
- The City and County should also advocate for changes in Medicare and Medicaid that increase available funding for home-based services.

3.4 Housing

As indicated in section 2.6 of this report, the number of seniors living by themselves in aging homes is increasing and nearing the 50% mark. Additionally, in section 2.7 it was noted that low vacancy rates for senior care housing indicate a lack of alternatives for seniors who find it increasingly difficult to live in their homes without assistance.

Increasing numbers of seniors need access to resources that allow them to age successfully at home. This includes availability of affordable services for maintaining the home and property. For renters, home maintenance could be a function of the services identified in: *3.3 In-Home Support Services*.

For senior homeowners, two areas of key assistance were identified:

- The need for expanding programs like the Housing Assistance Program that provide affordable home and property maintenance.
- The need for assistance in adapting houses to the changing needs of seniors (e.g. ADA compliance).

Housing: Agency Level Advocacy

- As part of the "Hub and Spoke" Model, COAHC will be a central point in disseminating and linking individuals to the resources they require to maintain their homes in safe and livable manner.
- The COAHC will strengthen and expand its relationships with other entities and resources that provide assistance to seniors in assuring their homes are safe and accessible.
- Regardless of the availability of support services, as indicated in section 2.7, the community will need to support an increase in available housing for the seniors. There needs to be strong community and agency level advocacy for the development of group living facilities (Independent and Assisted).

Housing: Community Level Advocacy

- The County should support funding and/or support required for expansion of programs like the Housing Assistance Program that provide affordable home and property maintenance.

3.5 Opportunities for Socialization

As indicated in section 2.6 of this report, the number of seniors living by themselves is increasing. Research has found that social support can play a significant role in overall health as people age. "Social Capital" refers to the types of personal connections that build trust and support participation for individuals. Research indicates that social capital offers health benefits that may be especially important for seniors. Spending time with friends and family members can boost quality of life, including both physical and mental health.

For seniors, social capital can decline due to reduced contact with former work colleagues, the deaths of friends and family members, and loved ones moving away. The loss of social contacts can have a direct impact on mental and physical well-being.

Social capital in the community can take the form of community groups like senior exercise classes, meals and a variety of activities that offer opportunities for friendships. The county and senior-related agencies should work together to develop strategies for assuring the infrastructure is in place for developing and promoting social interactions for older adults.

Opportunities for Socialization: Agency Level Advocacy

- As part of the previously defined "Hub and Spoke" Model, COAHC would be a central point in disseminating and linking individuals to sources of potential community engagement.
- Continue to operate, promote and expand the level of services available at the congregate nutrition center.
- Involve COAHC and CAG in community discussions that seek to improve community engagement opportunities.

Opportunities for Socialization: Community Level Advocacy

- Continue to sponsor, endorse and expand arts and recreational events (with senior rates and transportation available)
- Continue with county wide efforts to expand parks and greenways and transportation access to these resources.

Appendix A: Options Counseling

The Options Counselor provides guidance to individuals to help them make informed choices about support services available throughout the County. This Counselor helps people think through the pros and cons of the various options while taking into consideration their situation, support network, resources and preferences. Options Counseling is helpful to any senior, senior family member or caregiver who:

- Needs assistance in determining the type and availability of service required
- Lack awareness of available community resources and support services
- Require assistance in navigating the scheduling and management of required support services
- Require long-term monitoring and tracking of support service needs

Options Counseling Goals

The Counselor helps facilitate informed decision-making about senior support services and provides information about how to access those services. The goal of the program is to assist the individual in maintaining his or her desired level of independence.

The Options Counseling Process

The Options Counseling program is a person-centered planning process directed by the individual. The process is personalized for each individual that seeks assistance. The process shall include the following components:

1: Personal Interview

The interview helps the Counselor understand the person's needs, concerns, and the resources he/she may need for services and support. Among other topics, the interview will address:

- *Why the individual reached out*
- *What is or isn't working with that person*
- *The individual's abilities, support network, strengths, preferences, etc.*
- *The results the individual would like to see happen*

The interview may involve more than one conversation. At the end of each conversation, the Counselor will summarize the discussion with the individual.

2. Decision Support

Once a clear picture of the individual's situation has been obtained and an understanding of what is important to that person is learned, the Counselor assists by researching resources that help meet the individual's identified needs. The Counselor and individual discuss the options and related benefits of each along with any concerns.

The primary goal of the decision-support process is to help the individual narrow the array of options so that choices made reflect those that best fit their needs. It is essential for the Counselor to remain unbiased in the approach to these options and ensure decisions made are consistent with what the person needs and wants.

3. Action Plan

The Action Plan helps the individual move from identifying resource needs to specifying next steps. These next steps are based on the person's priorities, their desire to proceed, and the availability of services. It is important to discuss informal supports and other low-cost options.

The Action Plan is a template developed to assist the individual as he/she works through the decision-support process with the Counselor. The individual and Counselor may elect to use it in its current form, modify it, or choose another format.

4. Follow-up

Follow-up provides an opportunity to learn about the individual's current situation and the outcome of previous conversations including whether changes or steps in the Action Plan occurred.

Options Counseling Staffing Structure

Options counseling is a more in-depth process than just answering a phone and providing information. Initially, the service is provided by one Counselor who supports the individual through the entire decision-making process. The Counselor will follow up with the individual to see what decisions are working.

Rapport-building is a critical component of Counseling. In addition to managing client needs, the Counselor will also be responsible for building rapport with various agencies throughout Henderson County. Through interaction with these agencies, the Options Counselor will understand the services they offer and how they complement and support other services available to seniors. The Options Counselor will build communication and feedback mechanisms with these agencies to facilitate comprehensive and seamless delivery, follow up and communication for results tracking.

Staff Education and Work Experience Requirements

The appropriate Counselor candidate must have excellent communication, interpersonal and relationship building skills. Options Counselors shall have a:

- 1) BSW with 2 years' work related experience; or MSW with 1 year work related experience; or
- 2) Bachelor's degree in a relevant Human Services field with 3 years' experience in providing support to individuals needing elder service support; or
- 3) Master's degree in a relevant Human Services field with 2 years' experience in providing support to individuals needing elder service support; or
- 4) Bachelor's or master's degree in a non-Human Services field with 5 years' experience in providing support to individuals needing senior service support.

Henderson County Tourism Development Authority
Tourism Product Development Grant Program
Overview

Introduction

The Henderson County Tourism Development Authority Board of Directors has worked to strengthen the Henderson County's economy and generate adequate reserves to reinvest back into the local tourism industry. These investments will ensure future economic growth through tourism and sustain this county's ranking as one of North Carolina's top twenty counties in positive economic impact.

Eligibility

Any organization or business including public or private, for-profit or non-profit will be eligible to submit an application for a Tourism Product Development Grant. Specific things not eligible include fundraising efforts, operational costs, supplies, prizes, rental equipment/facilities, and other similar requests.

Funding

Tourism Product Development Grants will require applicants to provide matching funding for grant requests. This provision qualifies the project as one that has a higher percentage chance of being sustainable when the applicant proves vested in the project. Many grants offered throughout the nation adopt this stipulation as a tool to measure the strength of the project.

The HCTDA Board of Directors will determine the amount available for HCTPD Grants annually based on available funds in its Fund Balance.

Project Compliance

HCTDA's Grant Committee will oversee the annual grant cycle by: updating grant application, determining grants selection process, and awarding grants.

HCTDA Staff will be responsible for tracking expenditure of grant funds, initiating payments to recipients, ensuring grantees provide required recognition of HCTDA funding, and following up with each grantee on submission of required project documents.

Documentation

Completed documents will be required during application process, updates during project development, and after-project evaluation. Copies of paid invoices must be submitted with the after-project evaluation for reimbursement. Invoices not approved through application and award processes will not be eligible for reimbursement.

Expenditures approved on grant application must match repayment submissions. All invoices must be submitted at one time. Only one check will be issued for grant reimbursement.

TDA Recognition

Specific requirements will be given to grantees for inclusion of TDA recognition before-during-after project development. TDA Staff will monitor grantee adherence to this requirement.

Henderson County Tourism Development Authority

Tourism Product Development Grant Program Criteria

Background:

In an effort to promote tourism in Henderson County by financially supporting sustainable tourism development activities that attract visitors from outside of our community and enhance the tourist experiences, the Henderson County TDA establishes this program. Its aim is to support the development of additional services, attractions and other tourism products that will attract people to Henderson County to stay overnight and spend money.

Eligible Projects:

Organizations (private; governmental or non-profits) may apply for grants that do one of the following:

1. Development of Plans/Studies that support the tourism industry
2. Historic Preservation projects
3. Art projects; festivals; performances and exhibits (Funds may be applied for any existing event providing that the funding is only used for new or expanded components.)
4. Promote or enhance our culture; heritage and nature based attractions
5. Directional signage that meets the TDA Master Wayfinding Program
6. Other projects that will expand, strengthen and sustain local tourism

Requests:

The intent of this grant program is to assist groups with programs and/or infrastructure that will create, enhance, and attract visitors to our community. These funds are not intended to be used for marketing purposes nor fund any administrative costs. Applicants are required to provide a complete and detailed project description and budget for the request and any local cash match for the program. All requests must demonstrate the requirement of attracting visitors from beyond twenty-five miles of Henderson County with the potential to generate over night stays in order to be considered for funding.

General Criteria:

The TDA Board will consider many important standards in its review of any funding requests. Some of these are:

1. Will the project/program increase overall visitation?
2. Does the project/program directly/indirectly create overnight visits?
3. What are the estimated numbers of increased visitation expected from project annually?
4. Will the project/program increase 'off season' visitations?
5. Does the project/program emphasize the promotion of the overall activities and experiences that will attract visitors?
6. Is the project non-duplicative of current activities?
7. Does the project allow for the development of a database that will allow future contacts of our visitors?
8. Are there opportunities to partner with other tourism related groups/businesses?

Requirements for Grant Recipients:

- All applicants must send a representative to a workshop provided by HCTDA to be eligible to submit a grant request.
- First priority will be given to projects that offer either/or year round or winter experiences.
- Applicant must show proof of ability to match 50% of requested Grant funds.
- Proof of matching funds must be provided at time of application submission.
- Awarded grant funds must be used by agreed upon designated completion date.
- Applicant will be required to submit project summary documents (provided in application) in a timely manner following project completion.
- Certified cost estimates of project must be provided at time of application submission.
- Copies of project invoices for expenditures must be provided as documentation.
- All marketing materials promoting the development of funded project must provide HCTDA recognition (logo and other HCTDA specified information).
- Applications submitted after advertised deadline will be ineligible.

The TDA Board will review and make a decision concerning the request with funds taken from its available fund balance in a timely manner. The TDA Board reserves the right to accept or reject any or all funding requests.

Examples of Potential HCTDA Product Development Projects

HCTDA will continue to seek new projects that will develop long-term sustainable experiences for future visitors. The following is a list of potential projects that was derived from visitor inquiries to the Visitor Center and our community.

- Chapels, gazebos or other facilities to host weddings.
- Year round gem mining.
- Stables for horse back riding experiences.
- River access ramps for boating.
- Recreational facility that will bring large groups for major events.
- Bicycle trail system to attract avid bikers.
- Step-On-Bus Guide Service to accommodate growing group sales.
- Wayfinding signage.
- Major off season festival or event.
- Wine and Beer Trail.
- Month long Christmas/New Year Holiday experience.
- Improvements to Ingress/egress access to accommodate groups.
- Update rails into Hendersonville to accommodate excursion trains from Greensboro, etc.
- Waterpark.
- Zipline adventure.
- Fun Park – indoor family fun.



**HENDERSON COUNTY TOURISM DEVELOPMENT AUTHORITY (HCTDA)
PRODUCT DEVELOPMENT GRANT APPLICATION**

Date of Application: _____

GRANTEE INFORMATION

Name of Organization/Business applying for PD Grant: _____

Project Title: _____

Contact Person Title: _____

Address: _____

Phone: _____ Fax: _____ Cell: _____

Email: _____ Website: _____

Federal Tax ID#: _____

☐ FOR PROFIT ☐ INCORPORATED ☐ YES ☐ NO

☐ NON PROFIT - 501C STATUS ☐ YES ☐ NO OTHER: _____

Requested Grant Amount: _____ **Total Project Cost:** _____

ATTACHMENTS REQUIRED WITH APPLICATION:

- List of the Board of Trustees/Directors) and/or management team for the applying organization/business.
- Complete and detailed project description
- Budget for the project request
- Documentation of other funding (grants, cash match, sponsorships, donations, etc.)
- Certified cost estimates (Bricks & Mortar)
- Budget - Revenue & Expenses (All project applications)
- Marketing Plan promoting the development of funded project including required HCTDA recognition

ELIGIBILITY

Which of the following best describes the focus of your project?

- ☐ Development of Plans/Studies that support the tourism industry
- ☐ Performances
- ☐ Art Project
- ☐ Culture, Heritage, Nature/Outdoor based attraction enhancement
- ☐ Other projects that expand, strengthen and sustain local tourism

- ☐ Festival
- ☐ Historic Preservation project
- ☐ Exhibit
- ☐ Directional Signage (HCTDA Standards)

Describe:

PRODUCT INFORMATION

Briefly describe project scope: _____

Location of product (Bricks & Mortar): _____

or Date(s) of Event: _____ Event location: _____

Goals of the product: _____

Date work to begin on project/event: _____ Expected completion date: _____

GENERAL CRITERIA

Will your product/program/event increase visitation to Henderson County? ☐ YES ☐ NO

What is the estimated number of visitors to your event/attraction for the: 1st Year _____ 3rd Year _____ 5th Year _____

Provide an estimated percentage of attendees/users served by product:

Local _____ 40 miles away _____ 100 miles away _____ 500 miles away _____ Further _____

What is the estimated number of visitors that will stay in local accommodations? _____

Have grants been awarded or applied to your organization/business for this same product in the past? ☐ YES ☐ NO

If yes, list years received, type and amount of grant(s):

GRANTEE COMMENTS

Pitch why your organization/business thinks your product will be successful and positively impact our local economy:

SIGNATURE REQUIRED

Your signature on this application affirms that you legally represent the grantee (organization/business) in requesting funds from HCTDA and indicates that you read & accepted the Product Development Grant Guidelines.

Required _____ Date _____
Signature

Printed Name Phone _____

REIMBURSEMENT

If proposed project receives a grant from HCTDA, all required documentation should be submitted by deadline set by Grant Committee. Provide the following information for check processing purposes:

Mail Check To: _____
Organization/Business Name

Attention

Street Address

City State Zip

REQUIRED PRODUCT SUMMARY

Applicants are required to submit Product Development Summary Documents to HCTDA no later than **thirty days** after project completion provided in the application. Documents must include the following:

- ☐ Final Budget (Revenues/Expenses)
- ☐ Marketing materials recognizing HCTDA as funding source
- ☐ Economic Impact Survey Summary (All Projects Except Bricks & Mortar)
- ☐ Brief Project Summary
- ☐ Timeline Pictures of Project