TRAFFIC IMPACT ANALYSIS
JUNKER DRIVE DEVELOPMENT
CORNELIUS, NORTH CAROLINA

EXECUTIVE SUMMARY

1. Development Overview

A Traffic Impact Analysis (TIA) was conducted for the proposed Junker Drive development in accordance with the Cornelius (Town) Land Development Code (LDC) and North Carolina Department of Transportation (NCDOT) capacity analysis guidelines. The proposed development is to be located west of Catawba Avenue and north of Junker Drive in Cornelius, North Carolina. The proposed development is expected to be a maximum of 252 apartment units and 10,000 square feet (s.f.) of retail/restaurant space and estimated to be built out by 2024. Site access is proposed via three driveways, one along Harbor View Drive and two along Junker Drive.

2. Existing Traffic Conditions

The study area for the TIA was determined through coordination with the Town and consists of the following existing intersections:

- West Catawba Avenue and Jetton Road
- West Catawba Avenue and Harbor View Drive
- West Catawba Avenue and Junker Drive
- West Catawba Avenue and Nantz Road
- West Catawba Avenue and Westmoreland Road

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections, in May of 2018 by Burns Service, Inc. during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:30 PM – 6:30 PM) peak periods:

The traffic volumes for these intersections were grown to the year 2021 utilizing a growth rate of 1.5% per year. Traffic volumes were balanced between study intersections, where appropriate.

3. Site Trip Generation

The proposed development is assumed to consist of a maximum of 252 apartment units and 10,000 s.f) of retail/restaurant space. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE Trip Generation Manual, 10th Edition. Table E-1 provides a summary of the trip generation potential for the site.

Table E-1: Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Multifamily Housing (Mid-Rise) (221)	252 units	1,372	22	63	66	42
Shopping Center (820)	10,000 s.f.	1,258	97	60	48	51
Pass-By Trips: Shopping Center (34% PM)			--	--	*-17*	*-17*
Total Primary Trips			**119**	**123**	**97**	**76**

4. Future Traffic Conditions

Through coordination with the Town, it was determined that an annual growth rate of 1.5% would be used to generate 2024 and 2029 projected weekday AM and PM peak hour traffic volumes. The following adjacent developments were identified to be considered under future conditions:

- Catawba at Knox Retail
- 18830 West Catawba Development
- Alexander Farms Development

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2021 Existing Traffic Conditions
- 2024 No-Build Traffic Conditions
- 2024 Build Traffic Conditions
- 2029 Build Traffic Conditions w/ STIP R-2555B

5. Capacity Analysis Summary

The analysis considered weekday AM and PM peak hour traffic for 2021 Existing, 2024 No-Build, 2024 Build, and 2029 Build with STIP R-2555B conditions. Refer to Section 8 of the TIA for the capacity analysis summary performed at each study intersection.

6. Recommendations

Based on the findings of this study, specific geometric and traffic control improvements have been identified at study intersections. The improvements are summarized below and are illustrated in Figure E-1.

Recommended Improvements by Developer

West Catawba Avenue and Harbor View Drive

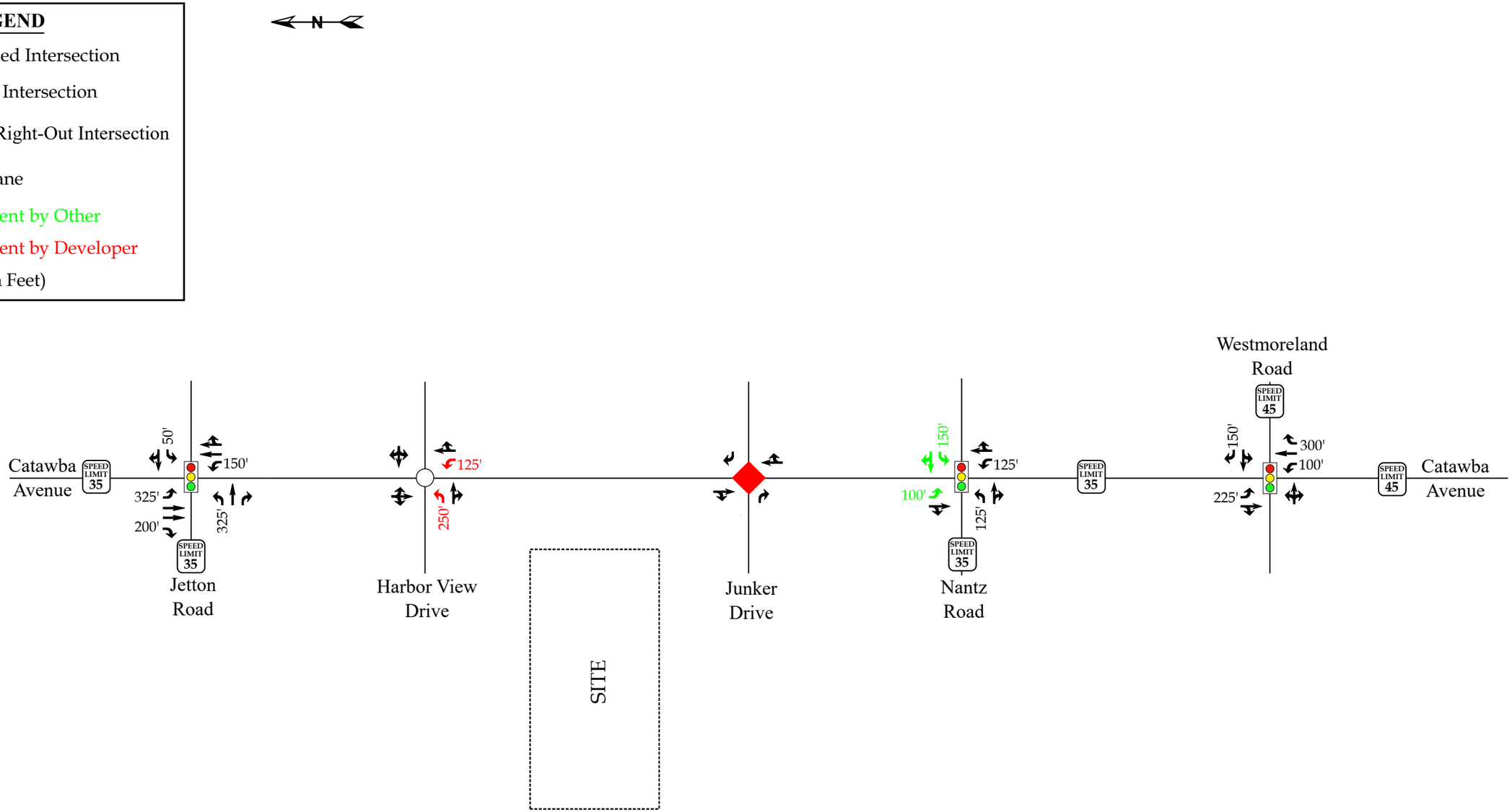
- Construct a northbound left turn lane with 125 feet of storage and appropriate taper.
- Stripe the eastbound approach to include an eastbound left and a shared through-right. Provide 250 feet of storage on the eastbound left turn lane.

West Catawba Avenue and Junker Drive

- Convert the intersection to a right-in/right-out intersection. This will require a concrete median and/or island to restrict turn movements.

LEGEND

- Unsignalized Intersection
- Signalized Intersection
- Right-In / Right-Out Intersection
- Existing Lane
- Improvement by Other
- Improvement by Developer
- X' Storage (In Feet)



Moving forward.

RKA

RAMEY KEMP ASSOCIATES

Junker Drive Development
Cornelius, NC

Recommended Lane Configurations

Scale: Not to Scale

Figure E-1