

# US 70 Corridor

**West Raleigh to Downtown Raleigh**

Wake County, NC

## Existing Service along US 70 corridor

### GoRaleigh Routes Served

- ▶ Route 70X
- ▶ Route 6
- ▶ Route 16

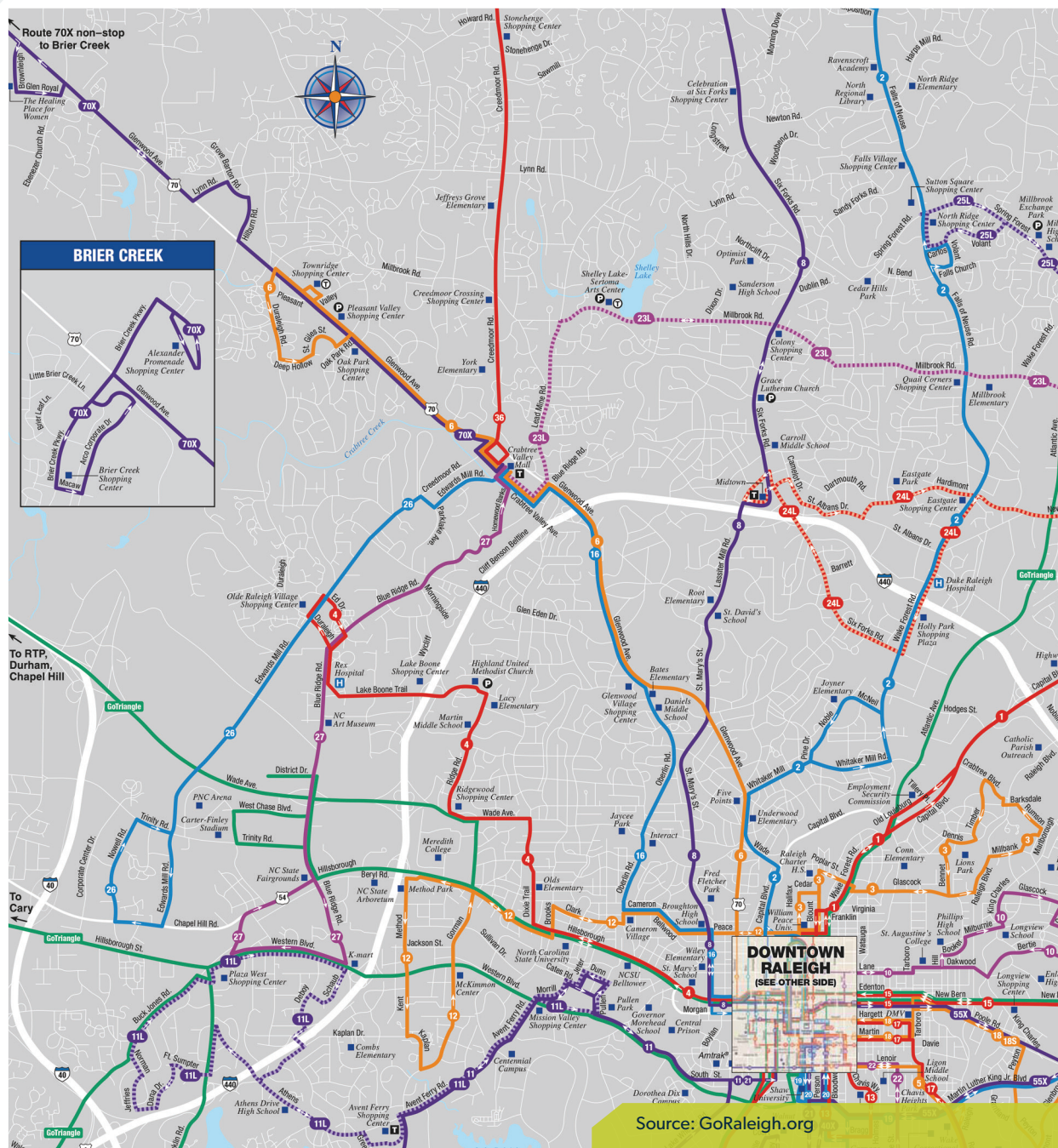


Figure 10. Existing GoRaleigh Transit Service

## US 70 Corridor Existing and Future PM Peak Hour Congestion

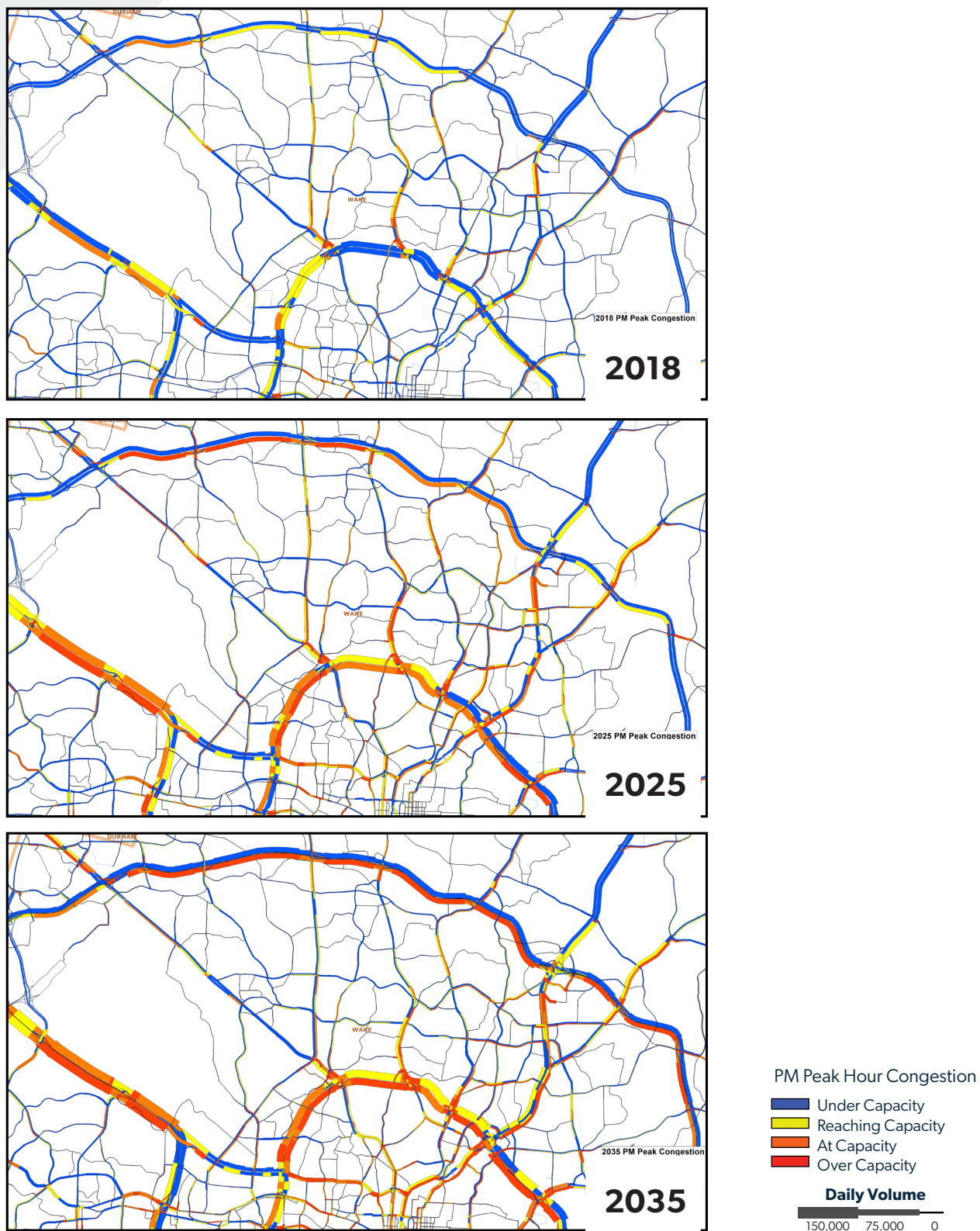


Figure 11. US 70 Corridor Existing and Future Volume/Capacity Ratio



## US 70 Corridor Deeper Dive Segments

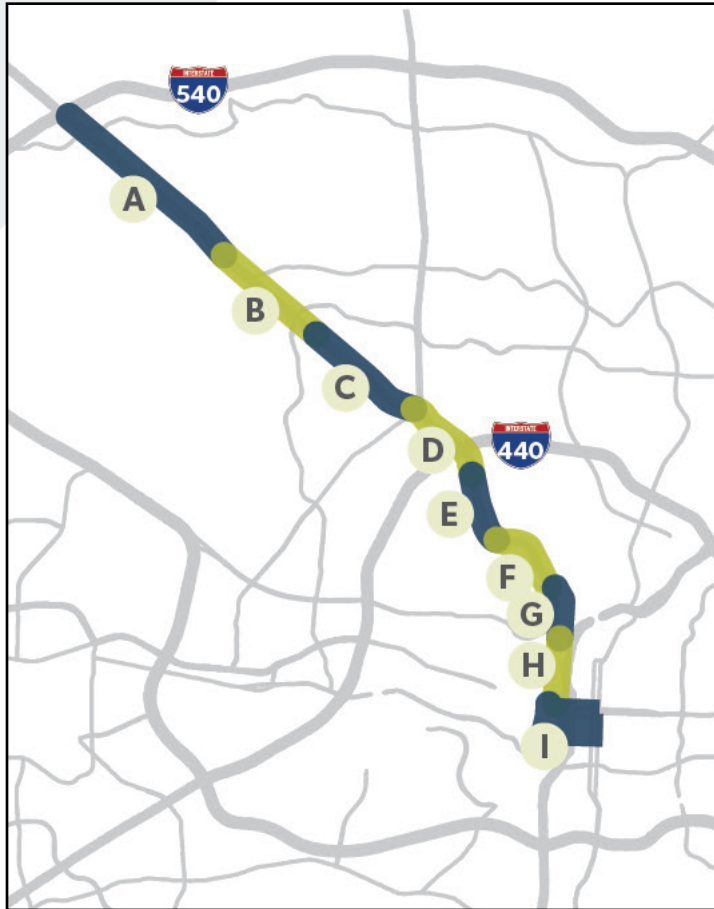
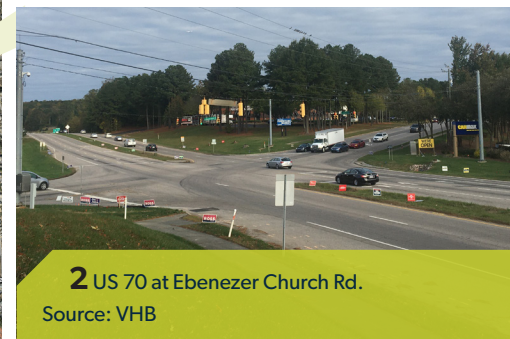
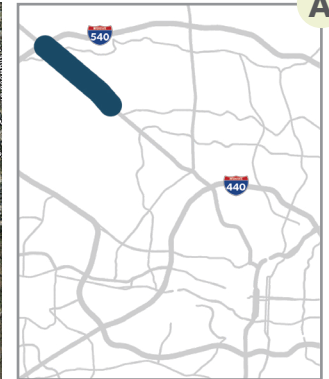


Figure 12. US 70 Deeper Dive Segments

- A** From I-540 to Ebenezer Church Rd
- B** From Ebenezer Church Rd to Millbrook Rd/ Durableigh Rd
- C** From Millbrook Rd/ Durableigh Rd to Creedmor Rd
- D** At Crabtree Valley Mall
- E** Glenwood Avenue - From I-440 to Oberlin Rd
- F** Glenwood Avenue - From Oberlin Rd to Alexander Rd
- G** Glenwood Avenue - From Five Points to Wade Ave
- H** Glenwood Avenue - Between Brooklyn Hill and Glenwood South
- I** Downtown Raleigh



## Segment A - From I-540 to Ebenezer Church Rd

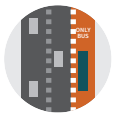


US 70 in western Wake County provides access to RDU Airport, Brier Creek, and Umstead State Park. In addition to serving these regional destinations, the corridor is an alternative to I-40 for travel between Durham and Raleigh. Addressing congestion and access along US 70 are fundamental to enhanced transit service.

► Congestion and signals limit transit reliability and speed along the corridor.



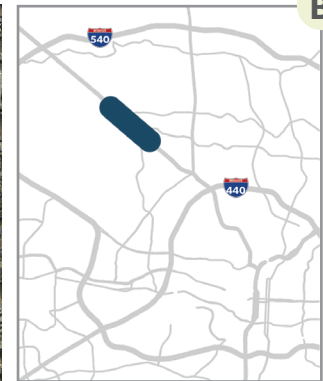
- Bus speed and reliability in this corridor could be improved by queue jumps at signals.
- Significant roadway delay due to signal density and type which could be improved through intersection improvements and signal modifications.



- Use the ROW (existing shoulder) to widen road for shoulder/transit lane on side or in median.

► 1 Potential connection to RDU.

## Segment B - From Ebenezer Church Rd to Millbrook Rd/ Duraleigh Rd



This stretch of US 70 is characterized by a mix of residential and commercial uses set back from the roadway. Pedestrian and bicycle accommodations along and across the corridor are extremely limited. In making transit more accessible along this corridor, careful consideration needs to be given to how and where pedestrians access transit stops.



► Signal delay at intersection increases travel times.



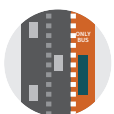
- Queue jumps at signals to improve bus speed and reliability.
  - Consider using right lane, or even queue jump/left-turn lane if can be done safely or with timing adjustments.
  - Significant roadway delay due to signal density which could be improved by intersection improvement.



► Lack of pedestrian or bicycle facilities limit accessibility to transit.

- There is high activity and density in this corridor, yet it is difficult to serve with transit due to accessibility limitations across US 70. This route could serve more stops and riders, as route 70X does not stop on US 70.

► No crosswalks or pedestrian accommodation at likely stops.

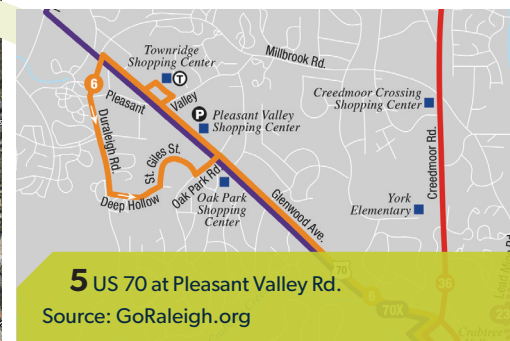
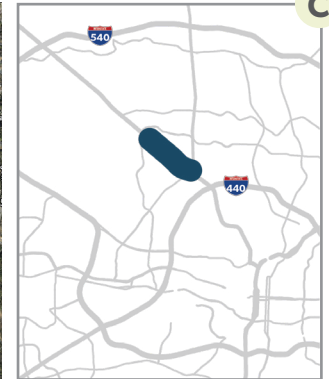


- Examine signal upgrades or significant intersection modifications to improve accessibility.

- Use the ROW (existing shoulder) to widen road for shoulder/transit lane on side or in median.



## Segment C - From Millbrook Rd/ Duraleigh Rd to Creedmor Rd



The development at Pleasant Valley is an important node for future transit service. The collection of higher density suburban retail and housing lends itself to enhanced transit services. While sidewalks along this section are common, crossing the wide roadway (US 70) remains unsafe and inconvenient. Since most transit users make round trips, crossing enhancements to US 70 will remain a top priority.



- ▶ Enhancements to service on US 70.

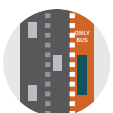


- ▶ Introduce enhanced bus stops.
- ▶ Right-Turn – Dedicated transit (marked) and limited right-turns/driveway access.
- ▶ Stops should be far-side of signals with queue jump/right-turn lanes.

- ▶ Lack of crossings makes service on US 70 challenging. The existing road design makes it difficult for transit to service this area.

- ▶ Add crossings and signal modifications.

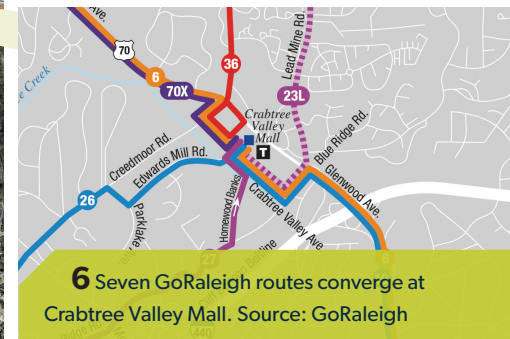
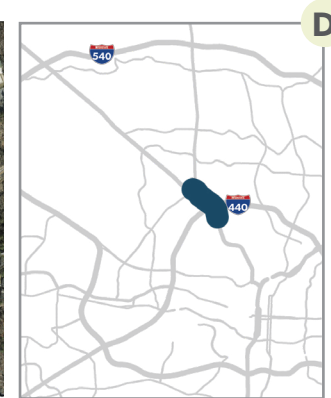
- ▶ 4 US 70 widens from 2 to 3 travel lanes and turning lanes east of Glenwood Forest/Hilburn through NC 50 (Creedmoor).



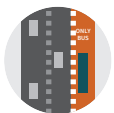
- ▶ If Express Service is expanded – Dedicate one lane as transit priority (left lane).



## Segment D - At Crabtree Valley Mall



Crabtree Valley Mall is a critical connection point and destination for GoRaleigh service. With seven routes serving the mall, efficient ingress and egress to and from the transit center are vital to reducing overall trip times. Additionally, the interchange improvements at I-440 should be coordinated with transit partners to ensure FAST transit improvements are considered in the design.



### ► 6 Crabtree Valley Mall access can be time-consuming for buses.

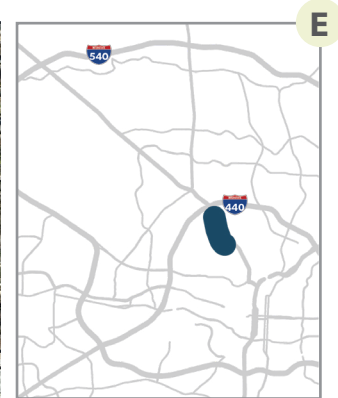
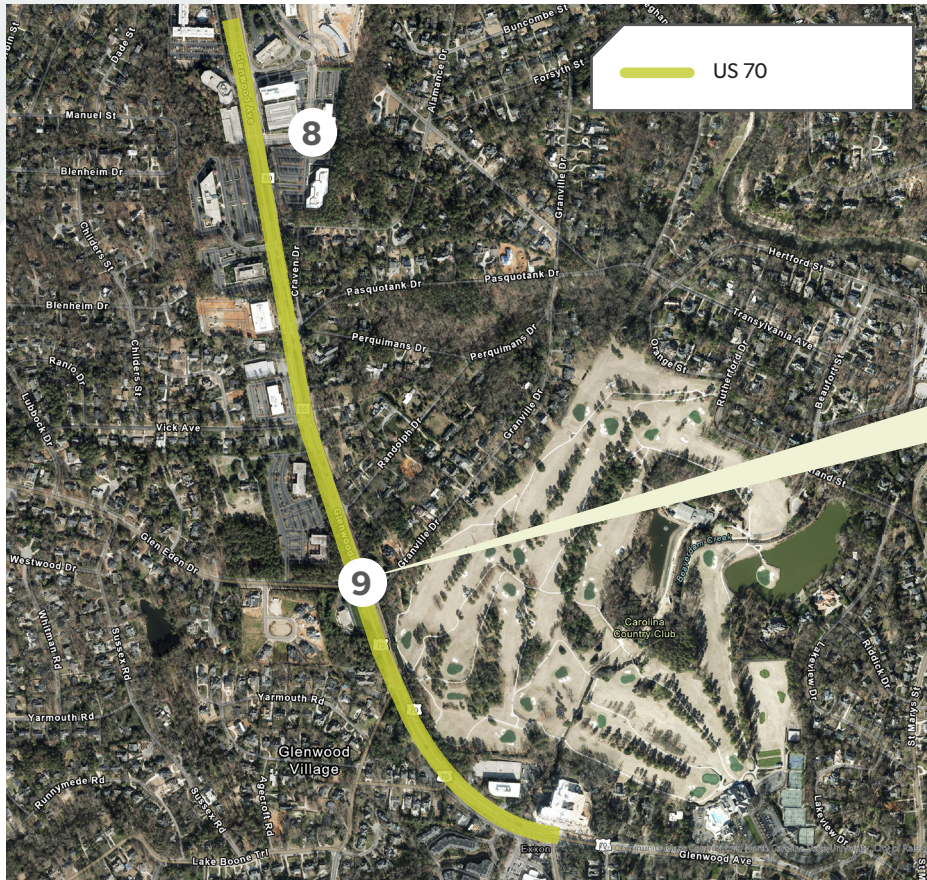
- Continue to use mall roads.
- Consider dedicated lanes on access roads.
- Queue jumps or dedicated turning lanes at signals.
- Consider dedicated lane through interchange.
- Use left lanes.
- No shoulders available.

### ► 7 I-440 Interchange improvements.

- I-5870 deals with the interchange at I-440 which should involve transit coordination.



## Segment E - Glenwood Avenue - From I-440 to Oberlin Rd

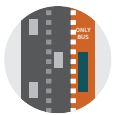


As US 70 transitions from outside to inside the beltline, land uses shift to less auto oriented and higher density employment adjacent to the corridor. Two GoRaleigh routes use this corridor and is planned to be part of the frequent transit network under the Wake Transit Plan.



- ▶ **8** US 70 narrows back to two travel lanes and turning lanes south of Women's Club Drive.

- ▶ Enhance access to transit.



- ▶ Identified stops on route that have no sidewalks or signage.

- ▶ **Abutting land use is walkable to transit.**



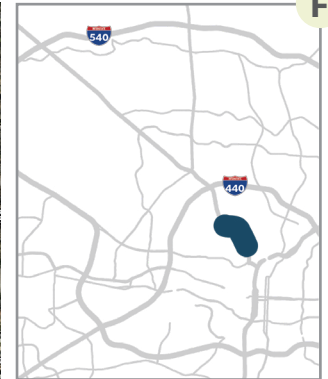
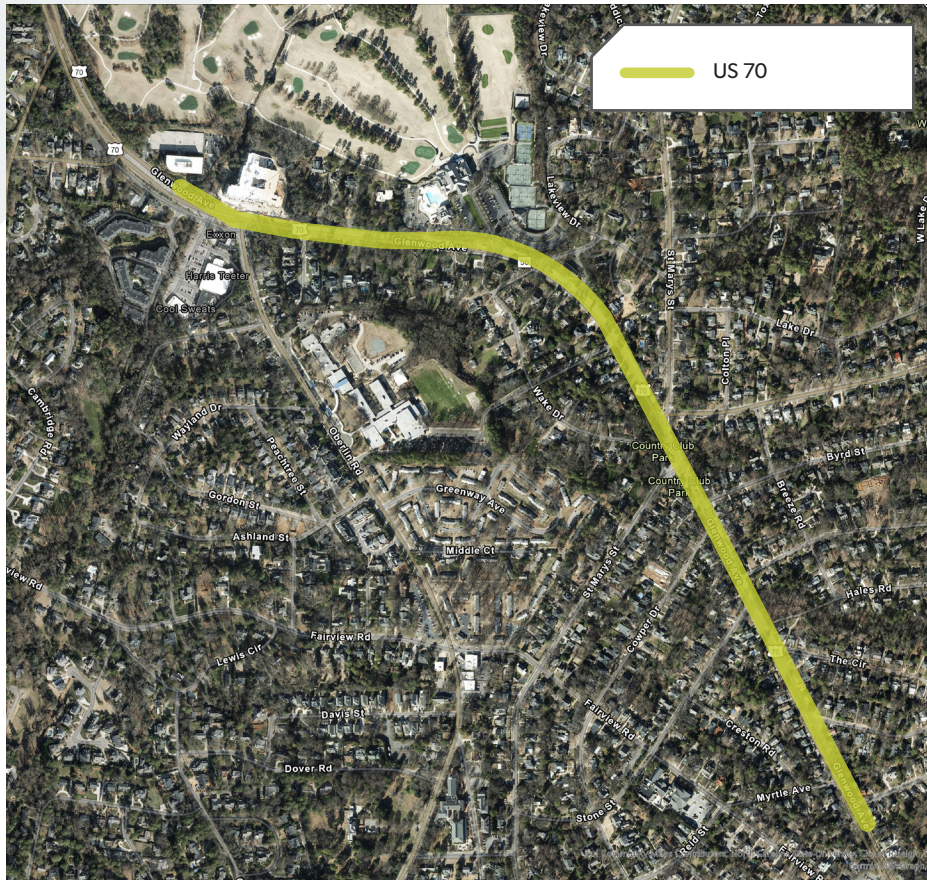
- ▶ Use existing crossings and/or add crossings and signal modifications.

- ▶ Right-Turn – Dedicated transit (marked) and limited right-turns/driveway access.

- ▶ Stops should be far-side of signals with queue jump/right-turn lanes.



## Segment F - Glenwood Avenue - From Oberlin Rd to Alexander Rd



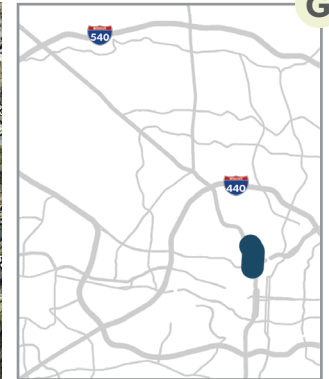
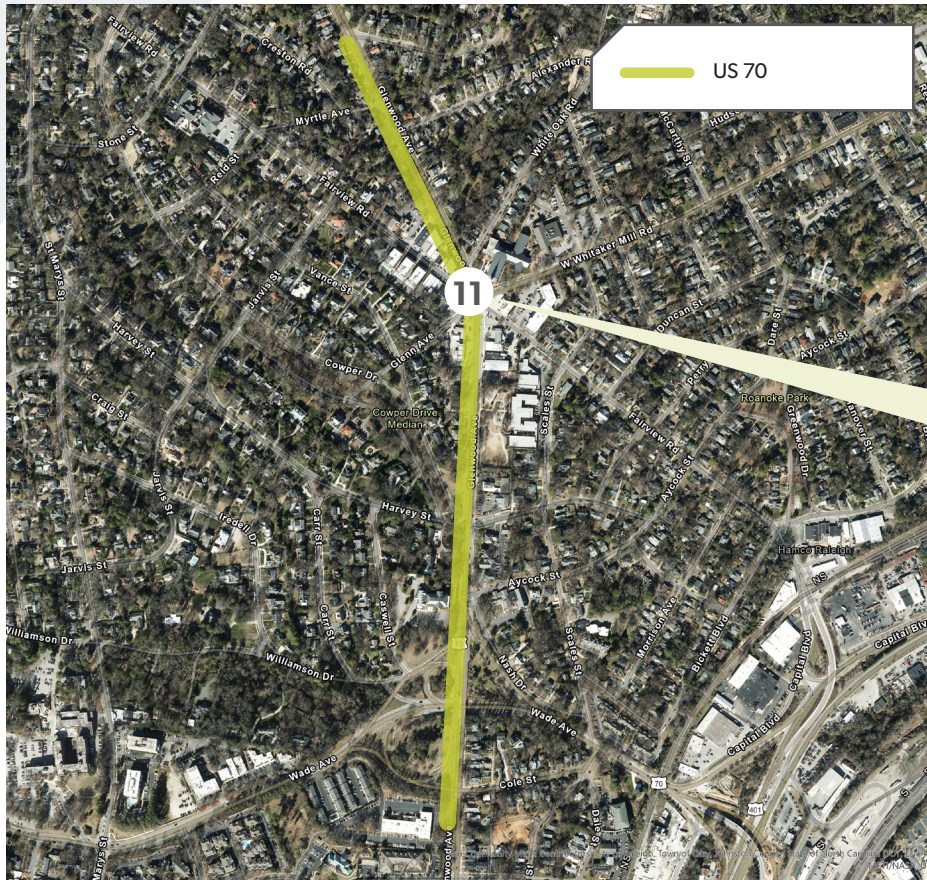
This section of US 70 is predominantly surrounded by residential development. Identifying and enhancing stops along this corridor can increase access to the surrounding neighborhoods.



- ▶ No excessive delays between the intersections but **high signal density causes delays at the intersection.**
  - ▶ Queue jumps and signal priority/phasing improvements where possible.
- ▶ Stop accessibility can be limited along the corridor.
  - ▶ Existing stops are more frequent, but poorly marked or defined.
  - ▶ Sidewalk widening and/or bumpout at stops where three lanes.
- ▶ US 70 is not divided southeast of Oberlin.
  - ▶ Alignment varies.
  - ▶ 2 to 3 lanes in either direction.
  - ▶ **10** Center-turning lane an opportunity for transit priority lane as there are long stretches where turns are few or not allowed, and transit could use that space even if only in the peak hour.



## Segment G - Glenwood Avenue - From Five Points to Wade Ave



**11** Five Points. Source: VHB

Five Points is a neighborhood center just north of downtown Raleigh. Restaurants, retail, and entertainment options are all easily accessed here. While roadway delay is not excessive along this portion of the corridor, targeted improvements can lead to enhancements to reliability and access.



- ▶ No excessive roadway delay or surgical improvements needed.
  - ▶ Queue jumps and signal priority/phasing improvements where possible.

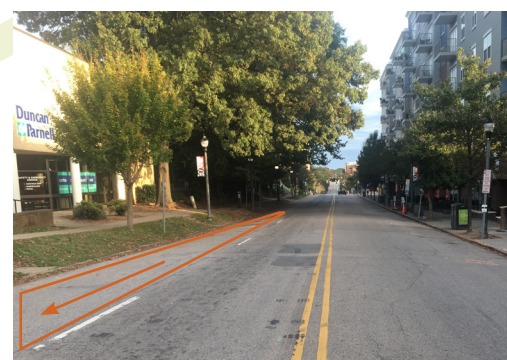
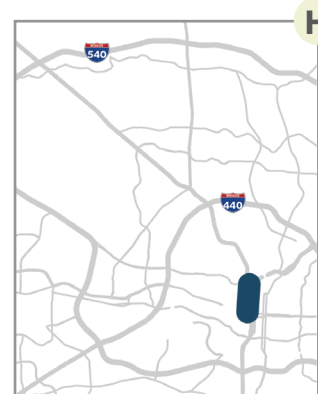
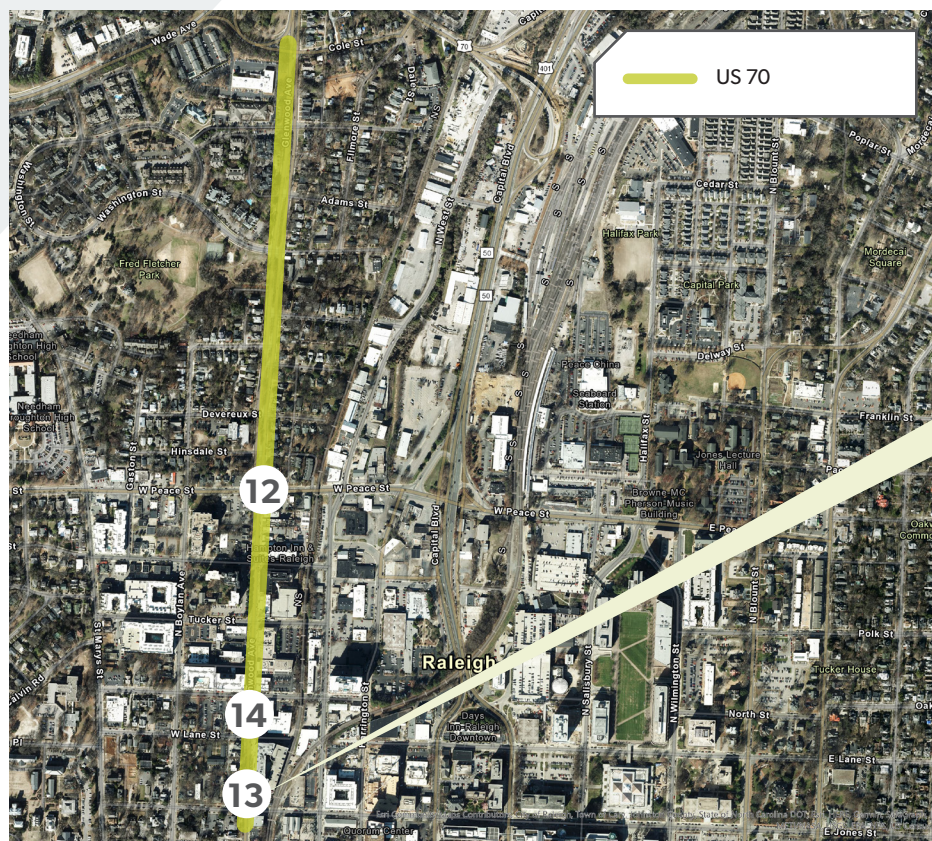


- ▶ Stop accessibility.
  - ▶ Existing stops are more frequent, but poorly marked or defined.
  - ▶ Not accessible.

- ▶ US 70 alignment varies.
  - ▶ 2 to 3 lanes in either direction.
  - ▶ Center-turning lane or median.

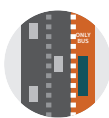


## Segment H - Glenwood Avenue - Between Brooklyn Hill and Glenwood South



**13** Potential peak hour, peak direction transit lane in Glenwood South. Source: VHB

US 70 south of Wade Ave transitions from a residential thoroughfare to a bustling downtown district in Glenwood South. In the downtown district, there are a high density of restaurants, retail, and office buildings. Current transit operations in Glenwood South are slow due to the frequent signals, tight geometry, and parallel parking. While this is an important corridor to serve, FAST enhancements could facilitate decreased transit travel times through the corridor.



- ▶ Existing parallel parking.

- ▶ Removes existing parking during peak direction/hours.
- ▶ Peak hour, peak direction bus lanes.
- ▶ Can be implemented immediately and then made permanent.



► Frequent signals.

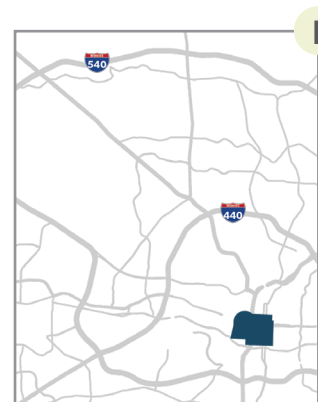
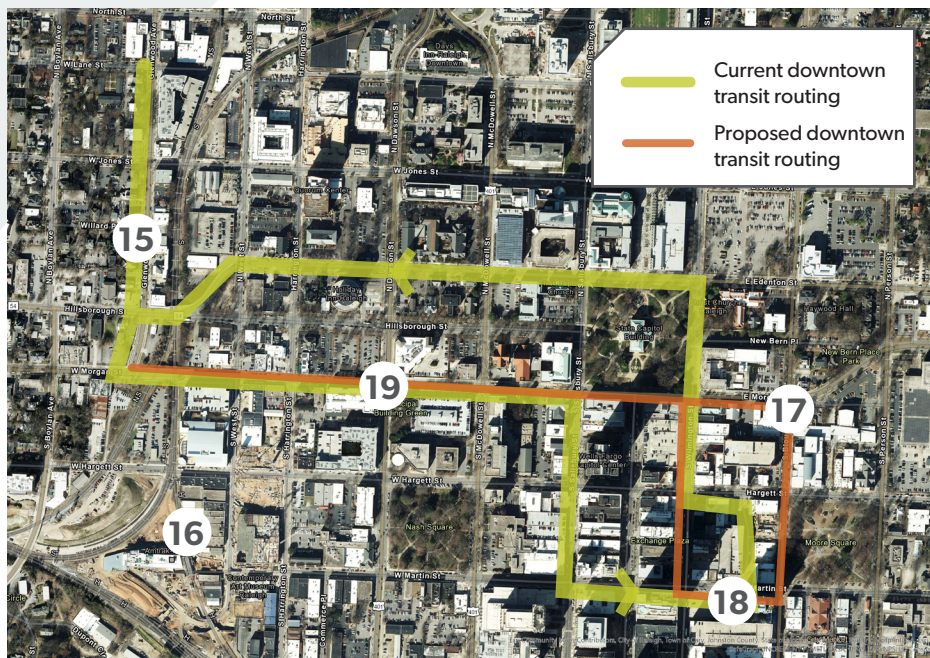
- ▶ Signal improvements/priority.
- ▶ **12** No excessive roadway delay north of Peace Street.



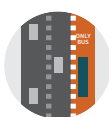
**14** On Street Parking at South Glenwood and W Lane St. Source: Bing Maps



## Segment I - Downtown Raleigh



Transit routing within downtown Raleigh is challenging given the blend of one-way pairs, tight geometries, and multitude of destinations. Current routing can be confusing to new riders. Simplifying routing to be more direct and quick to GoRaleigh Station could enhance the rider experience.



### ► 15 Address bus speed and reliability by implementing:

- Peak hour/peak direction bus lanes.
- Removes existing parking.
- Can be implemented in short- or immediate-term and then made permanent.



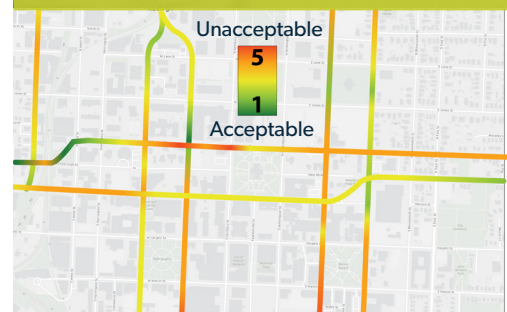
### ► Signal improvements/priority.

- 16 Planned Raleigh Union Station Bus Facility.
- 17 Contraflow bus lane on Morgan St.
- 18 GoRaleigh Station.



### 19 On-Street Parking on Morgan St.

Source: VHB



### FAST evaluation of 2035 Traffic Performance.

Source: VHB



### Level Boarding in Charlotte, NC

Source: CDOT