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AURA, 1000 MARTIN LUTHER KING JR. BLVD. FEBRUARY 10, 2021



AGENDA

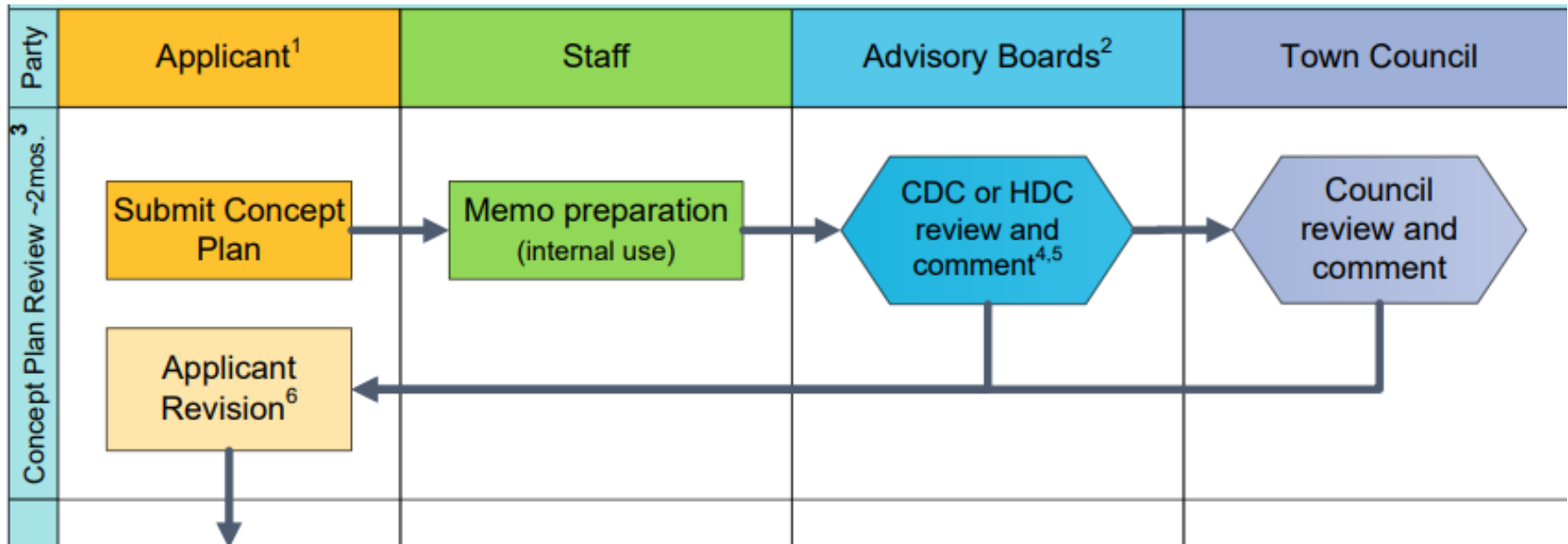
- **Welcome and Introductions**
- **Background**
- **Town Projects**
- **Traffic Impact Analysis**
- **Questions and Answers**

MEETING PROTOCOLS

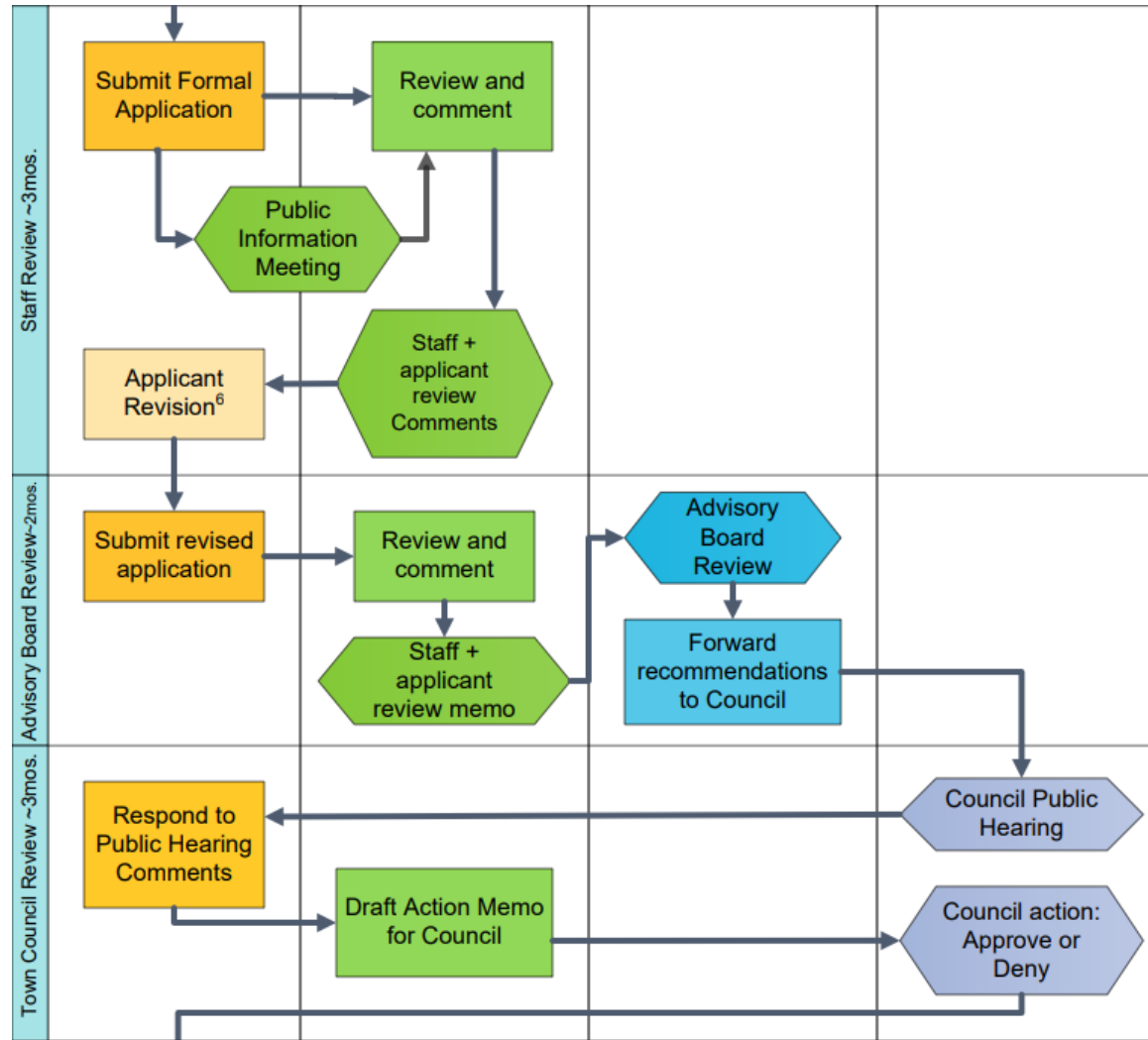
Helpful Hints

- Please mute your microphones when you are not speaking
- Ask one question at a time and then let the next person speak
- Meeting is recorded and will be made available online
- Anything added to the chat is part of the public record
- To speak, either raise your hand or type “speak” in the chat. To raise your hand:
 - On your laptop, click on “reactions” on the bottom right of screen
 - On your ipad, tap the screen, click on the 3 ellipsis (dots), and select “Raise Hand”
 - On your phone, tap on the screen, click on the 3 ellipsis (dots), and select “Raise Hand”
- Project information: <http://chplan.us/AuraCZ>

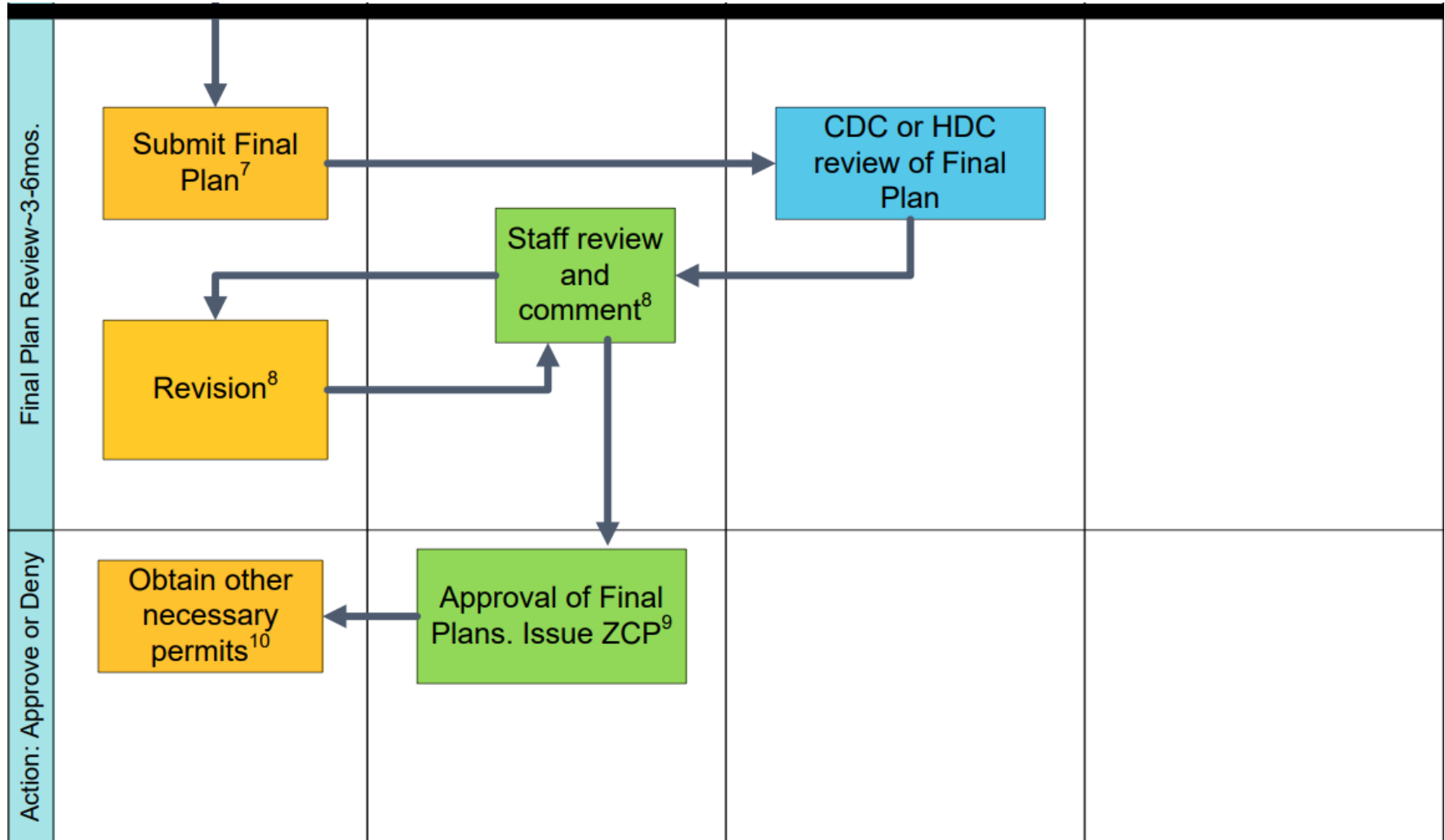
REVIEW PROCESS – CONCEPT PLAN



REVIEW PROCESS – FORMAL REVIEW

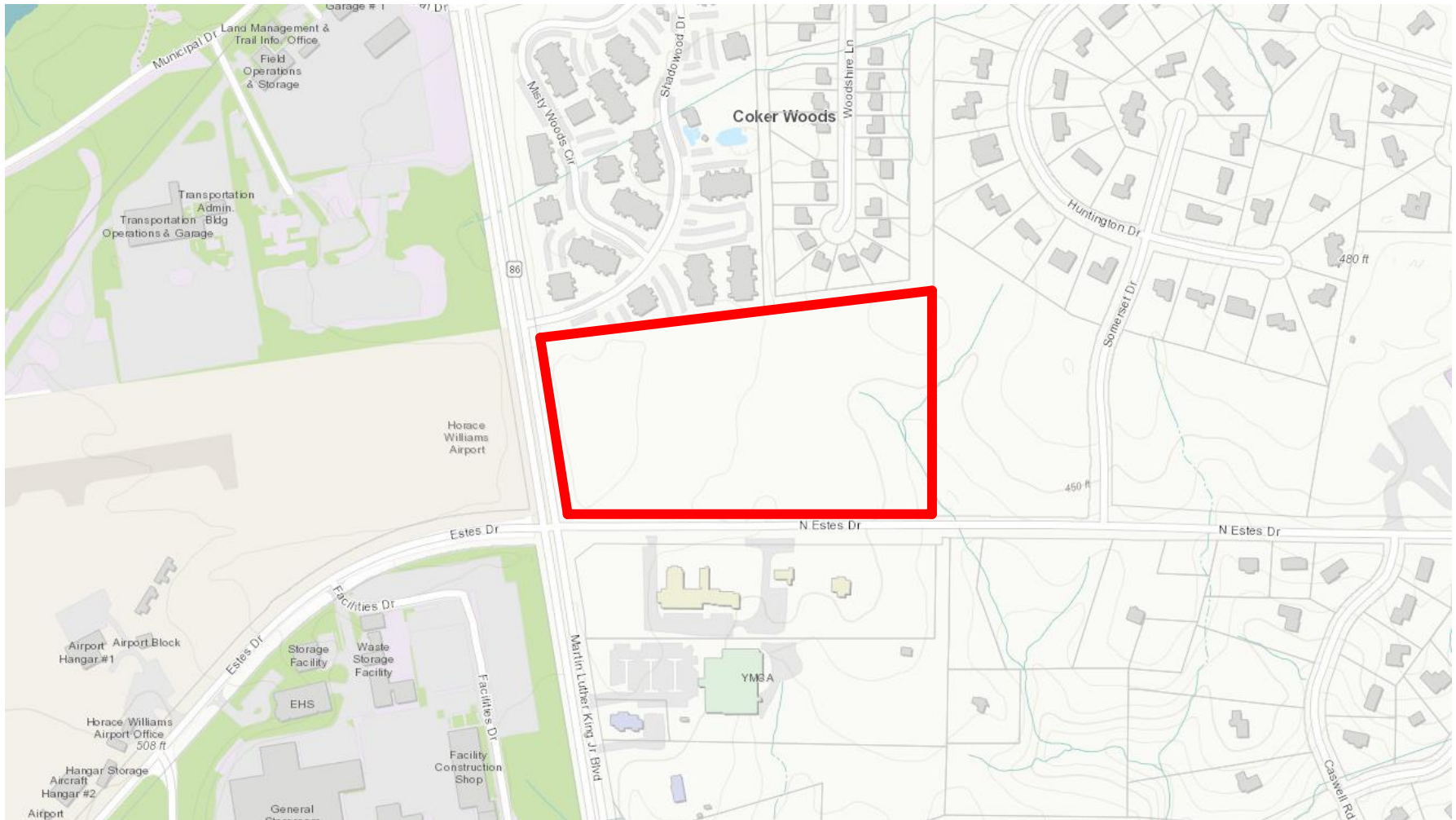


REVIEW PROCESS – FINAL PLAN



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Aura Development



Upcoming Town Transportation Projects

- Estes Drive Bike-Pedestrian Improvements
- Estes Drive Extension Bike-Pedestrian Improvements
- North-South Bus Rapid Transit

ESTES DRIVE BIKE-PEDESTRIAN IMPROVEMENTS

- Raised bike lanes
- Sidewalk (south side)
- Multiuse Path (north side)
- Additional turn lanes at MLK
- Mid-block crosswalks (with RRFB) at Somerset and Caswell
- Construction starting this spring (👉)



ESTES EXTENSION BIKE-PEDESTRIAN IMPROVEMENTS



- Funding available in FY22 to begin design
- Hope to match Estes Drive cross-section
- Will include dual left turns onto northbound Martin Luther King Jr. Blvd.

NORTH-SOUTH BUS RAPID TRANSIT

- High frequency service along NC 86 between Southern Village and Eubanks P&R
- 16 proposed stations
- Bus only lanes and transit signal priority
- Construction anticipated in spring 2024



Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results



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Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

TIA Basic Elements



DRAFT Traffic Impact Analysis Components

- Existing (2020) Operations
- No-Build (2024) Operations
- Site Trip Generation and Distribution
- Build (2024) Operations
- Build (2024) with Improvements

Basic Elements

- Roadway Geometry (lanes, turns)
- Traffic Control (signals, stop signs)
- Coordinated signal timings
- Pedestrian Crossings/Signals
- Transit Routes/Facilities
- Traffic/Pedestrian Volumes

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

Study Area



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- Martin Luther King Jr. Blvd (NC 86) at Airport Dr
- Martin Luther King Jr. Blvd (NC 86) at Estes Dr
- Martin Luther King Jr. Blvd (NC 86) at Piney Mountain Rd/Municipal Dr
- Martin Luther King Jr. Blvd (NC 86) at Homestead Rd
- Estes Dr at Somerset Dr
- Estes Dr at Caswell Rd
- Estes Dr at Franklin St
- Martin Luther King Jr. Blvd (NC 86) at Future Access #1
- Estes Dr at Future Access #2

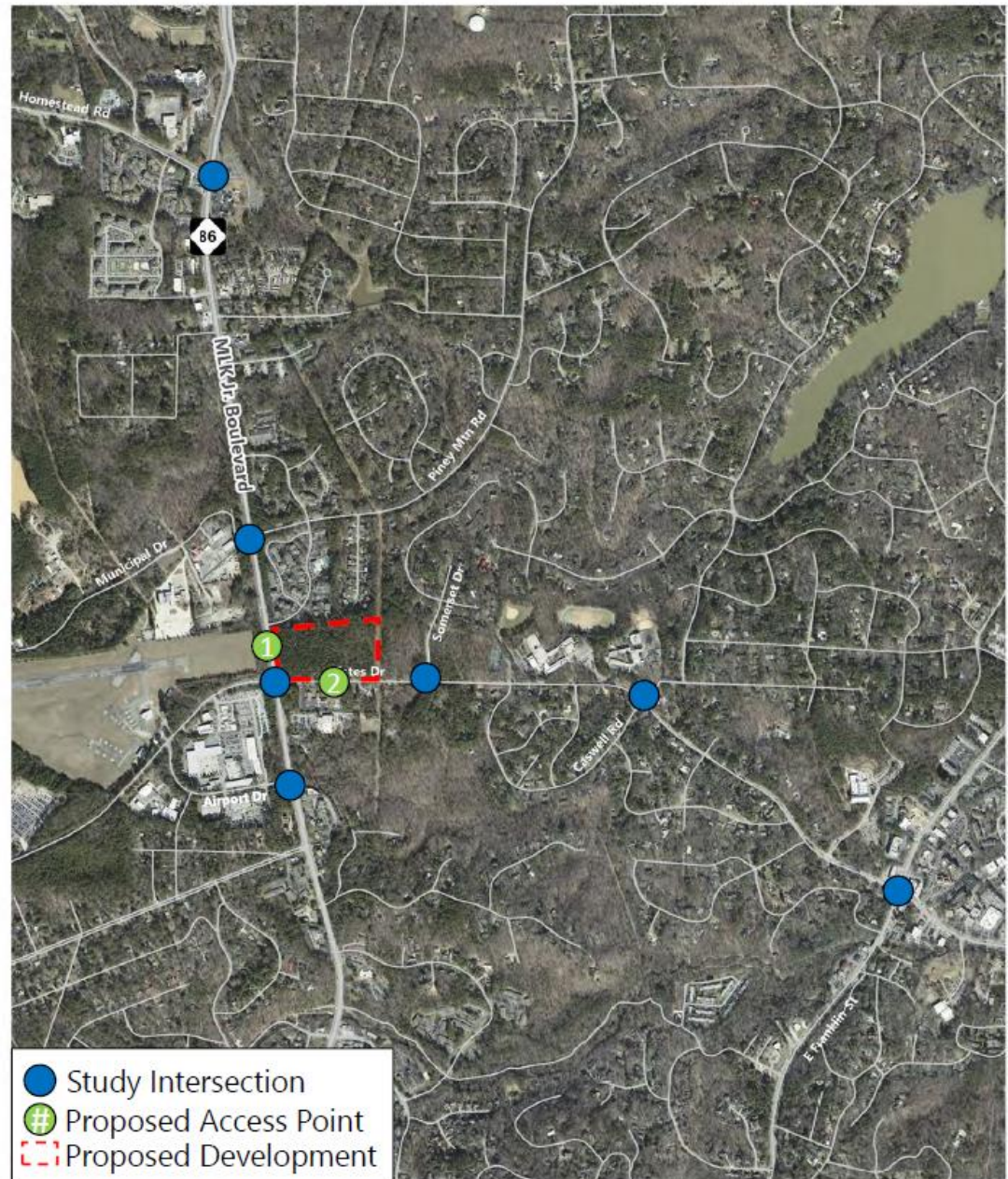
Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

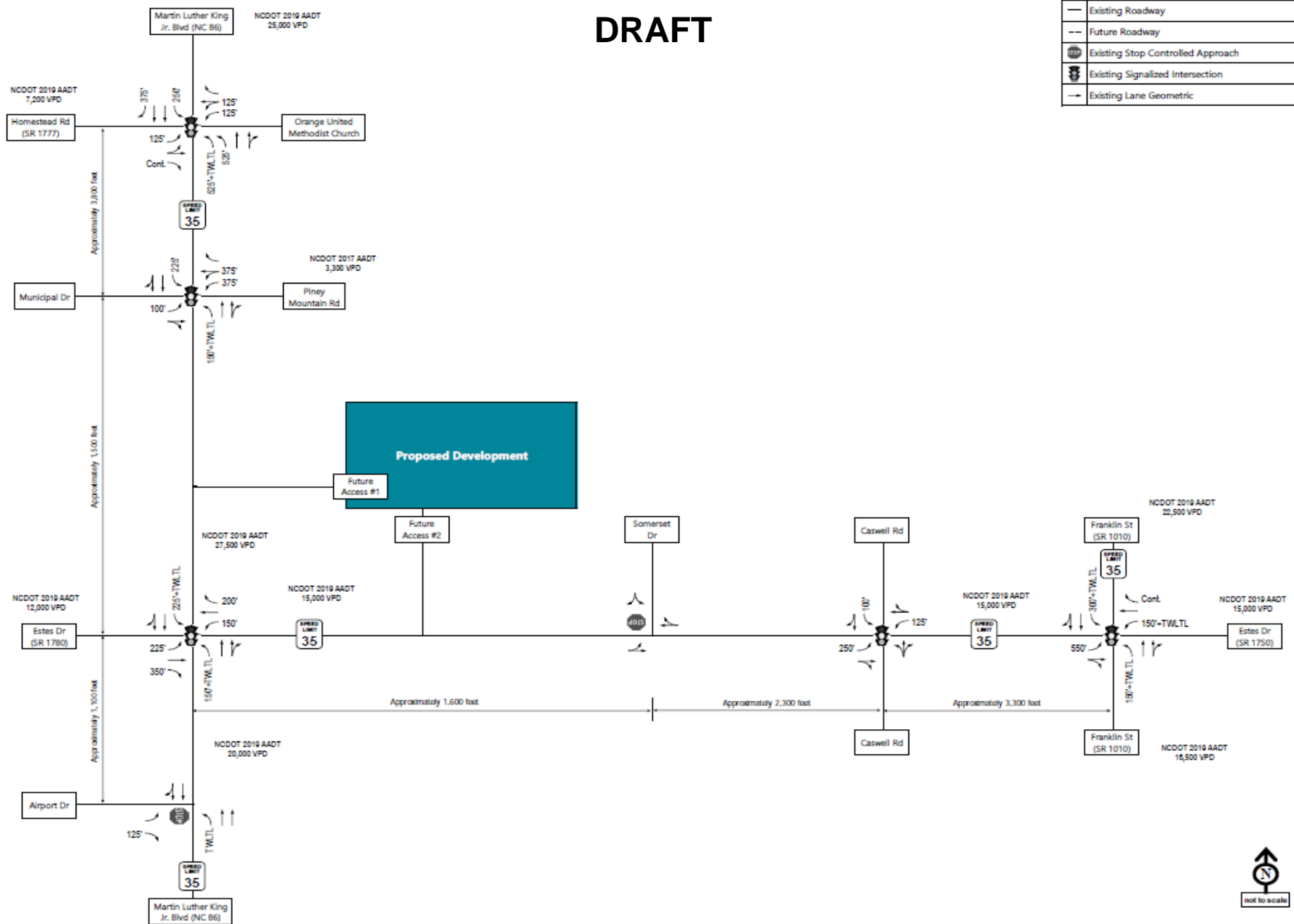
Study Area



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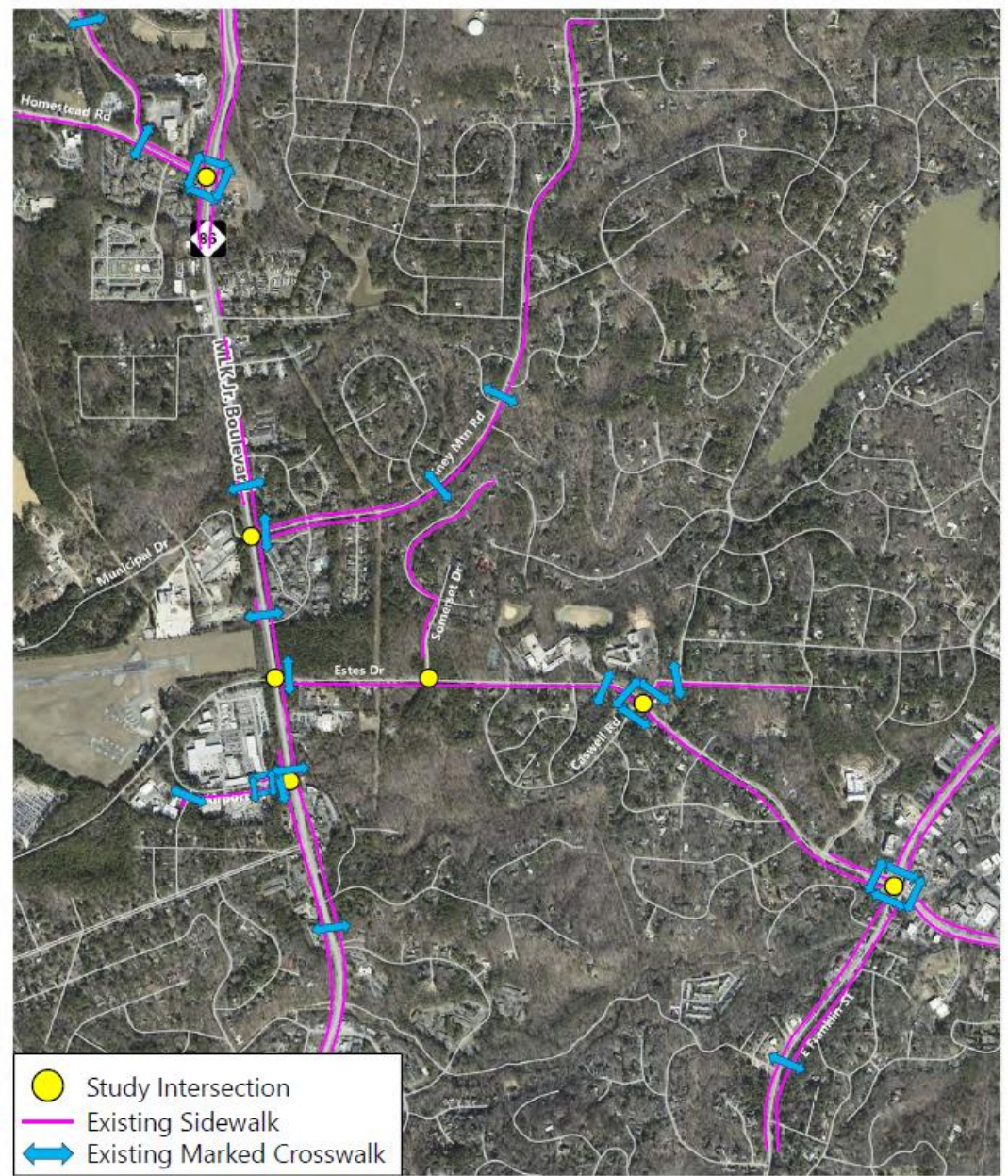
Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

Existing Bicycle and Pedestrian Facilities



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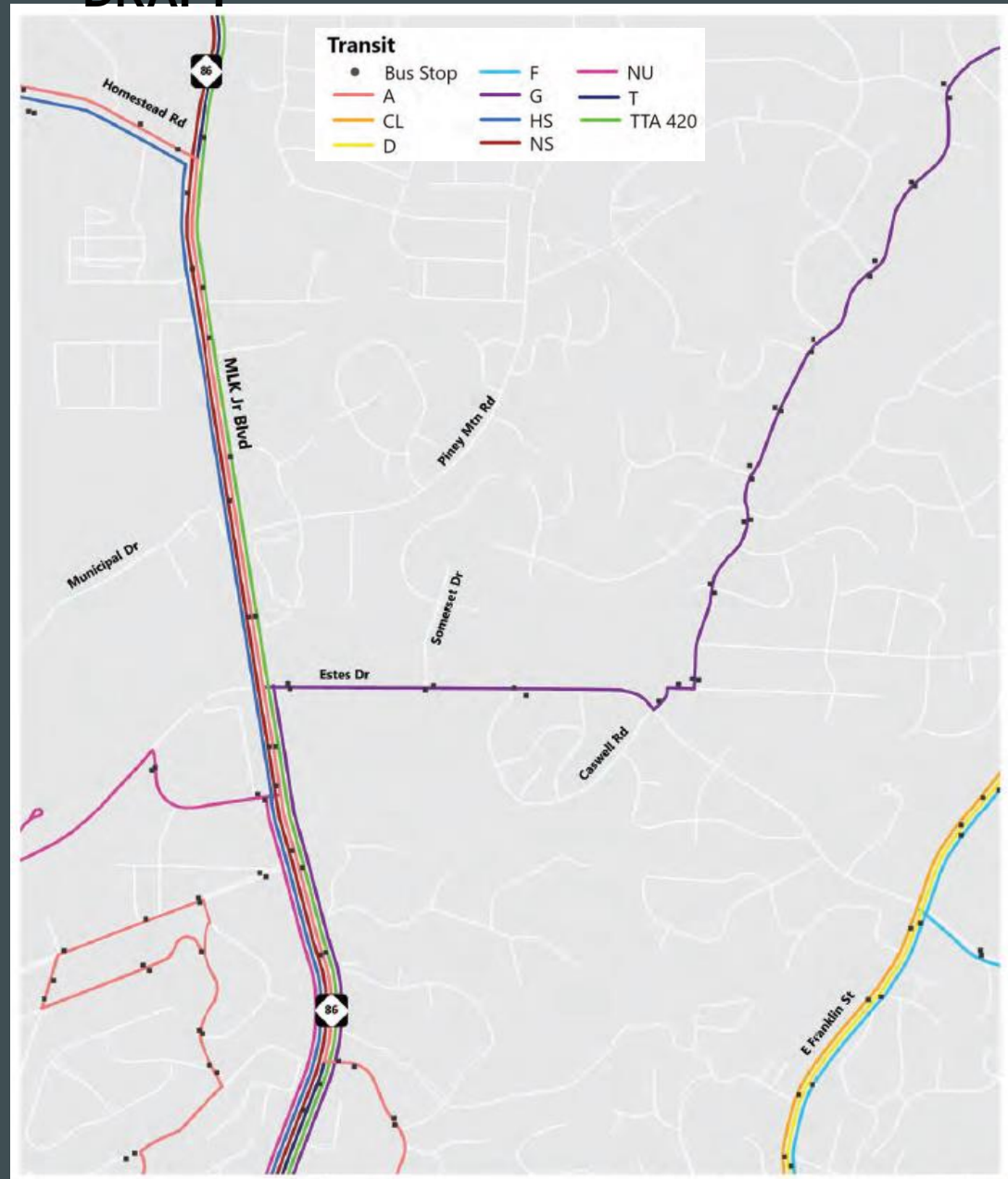
Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis

Existing Transit Routes



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Traffic Impact Analysis Methodology and Results

Data Collection



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- Counts recorded on Tuesday, January 28, 2020.
 - Prior to COVID-19 pandemic-related travel impacts
 - AM Peak: 7:00 – 9:00
 - Noon Peak: 11:00 – 1:00
 - PM Peak: 4:00 – 6:00
- Highest peak hour AM, Noon, and PM volumes recorded at individual intersections were analyzed.

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

Crash Analysis



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- Five-year history obtained from NCDOT TEAAS for crashes along Martin Luther King Jr. Blvd and Estes Dr within vicinity of the site.
- Highest number of crashes was observed at Martin Luther King Jr. Blvd (NC 86) and Estes Dr.
- Both roadways exceed statewide average rates for total crashes, non-fatal injury crashes, night crashes, and wet road crashes.
 - Statewide averages obtained for similar roadway facilities.

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

Existing (2020) Results



DRAFT		Existing (2020)		
Intersection and Approach	Traffic Control	AM	Noon	PM
Martin Luther King Jr. Boulevard (NC 86) and Airport Road	Unsignalized	-	-	-
Eastbound		C-18.0	B-12.8	C-16.4
Martin Luther King Jr. Boulevard (NC 86) and Estes Drive (SR 1750/SR 1780)	Signalized	D (38.4)	C (32.6)	D (54.2)
Eastbound		E-56.6	D-53.2	E-63.4
Westbound		D-37.0	D-43.5	F-82.3
Northbound		D-42.4	C-25.1	D-52.5
Southbound		C-29.5	C-21.1	C-28.1
Martin Luther King Jr. Boulevard (NC 86) and Piney Mountain Road/Municipal Drive	Signalized	A (8.4)	A (5.4)	B (10.3)
Eastbound		E-61.0	E-59.4	E-71.8
Westbound		E-65.3	E-57.6	E-70.9
Northbound		A-3.9	A-2.5	A-4.2
Southbound		A-3.0	A-1.3	A-8.9
Martin Luther King Jr. Boulevard (NC 86) and Homestead Road (SR 1777)/Church Driveway	Signalized	C (22.6)	C (21.3)	C (20.2)
Eastbound		D-53.1	D-46.3	D-54.8
Westbound		D-51.3	D-45.5	E-58.6
Northbound		B-10.4	B-18.4	B-12.8
Southbound		B-19.9	B-12.6	B-18.6
Estes Drive and Somerset Drive	Unsignalized	-	-	-
Southbound		C-18.2	C-15.4	D-25.8
Estes Drive and Casewell Drive	Signalized	B (13.9)	A (9.7)	B (18.6)
Eastbound		A-6.7	A-3.3	A-6.6
Westbound		B-12.9	A-8.4	B-19.7
Northbound		C-34.5	D-37.0	C-34.2
Southbound		D-48.8	D-46.4	D-54.0
Franklin Street (SR 1010) and Estes Drive (SR 1750)	Signalized	D (48.5)	D (47.9)	E (58.0)
Eastbound		E-66.0	E-55.9	E-67.0
Westbound		D-49.5	D-49.6	E-62.5
Northbound		D-37.3	D-44.2	D-54.2
Southbound		D-39.7	D-43.5	D-52.7

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

No-Build (2024) Volume
Development



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- One-half percent (0.5%) annual growth applied between existing year (2020) and build year (2024).
- Site trips from three (3) background developments also included:
 - 1200 MLK Redevelopment
 - Retirement Residence at Somerset Drive
 - University Place Redevelopment
- Background roadway improvements from Estes Drive Connectivity Project were included.

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

No-Build (2024) Results



DRAFT		No-Build (2024)		
Intersection and Approach	Traffic Control	AM	Noon	PM
Martin Luther King Jr. Boulevard (NC 86) and Airport Road	Unsignalized	-	-	-
Eastbound		C-18.9	B-13.3	C-17.6
Martin Luther King Jr. Boulevard (NC 86) and Estes Drive (SR 1750/SR 1780)	Signalized	D (35.4)	C (30.1)	D (48.8)
Eastbound		E-57.8	D-43.8	E-64.3
Westbound		D-47.3	D-48.7	E-68.3
Northbound		C-31.1	C-22.8	D-48.4
Southbound		C-23.6	B-16.8	C-25.6
Martin Luther King Jr. Boulevard (NC 86) and Piney Mountain Road/Municipal Drive	Signalized	A (8.6)	A (5.1)	B (10.6)
Eastbound		E-61.0	E-59.4	E-72.0
Westbound		E-65.5	E-57.7	E-71.3
Northbound		A-4.6	A-2.2	A-5.2
Southbound		A-3.0	A-1.5	A-8.3
Martin Luther King Jr. Boulevard (NC 86) and Homestead Road (SR 1777)/Church Driveway	Signalized	C (23.2)	C (21.1)	C (20.6)
Eastbound		D-53.1	D-46.5	D-54.7
Westbound		D-51.3	D-45.5	E-58.6
Northbound		B-11.0	B-18.0	B-13.3
Southbound		C-21.0	B-13.0	B-19.3
Estes Drive and Somerset Drive	Unsignalized	-	-	-
Southbound		C-19.7	C-16.9	D-32.2
Estes Drive and Casewell Drive	Signalized	B (14.3)	A (9.8)	B (19.6)
Eastbound		A-7.1	A-3.6	A-7.3
Westbound		B-13.7	A-8.8	C-21.7
Northbound		C-34.3	D-36.9	C-34.8
Southbound		D-48.9	D-46.6	E-56.8
Franklin Street (SR 1010) and Estes Drive (SR 1750)	Signalized	D (49.8)	D (49.1)	E (64.0)
Eastbound		E-66.1	D-54.6	E-69.2
Westbound		D-47.1	D-47.7	E-68.6
Northbound		D-39.2	D-48.0	E-63.0
Southbound		D-43.0	D-46.7	E-58.2

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

Trip Generation and Distribution

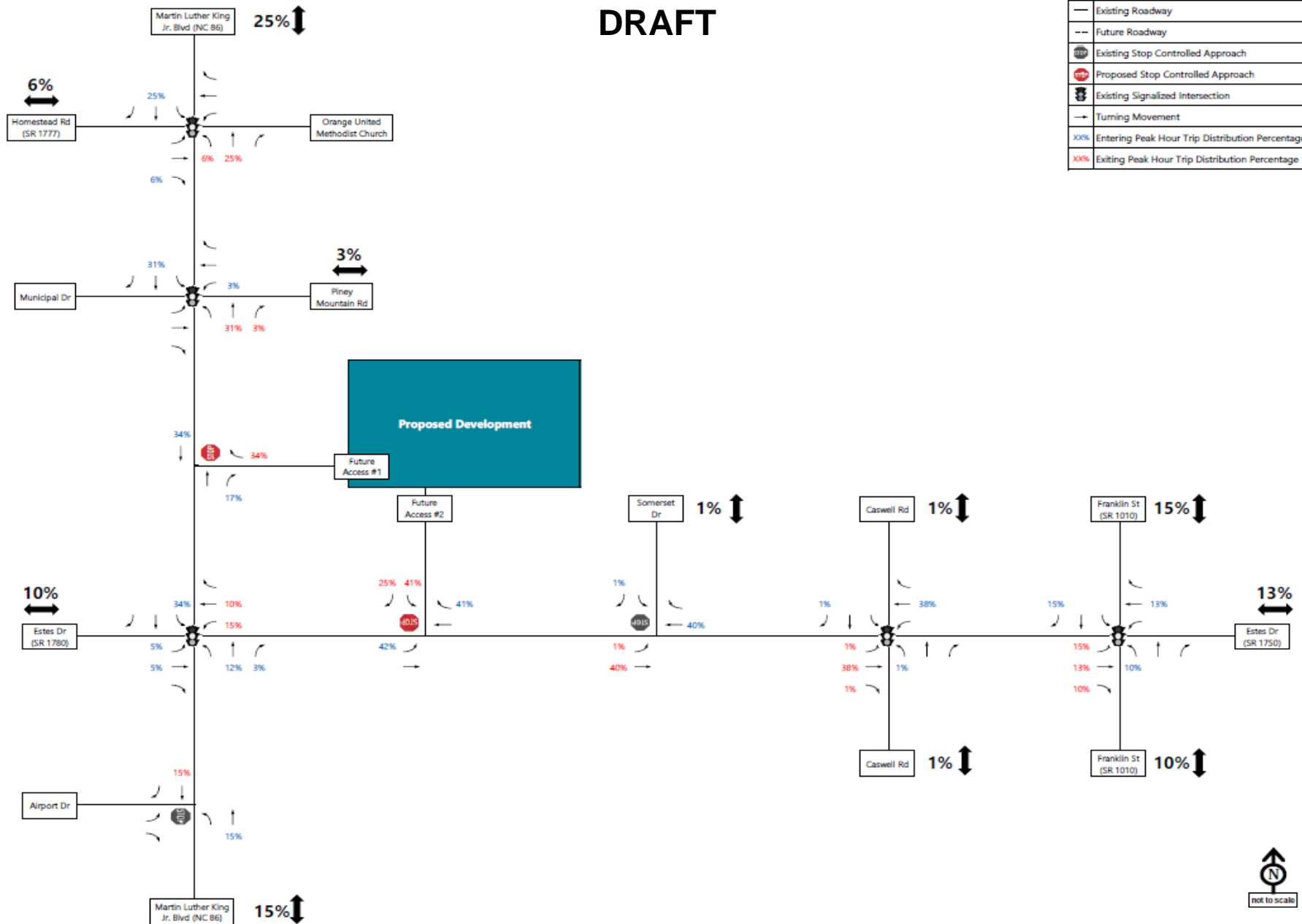


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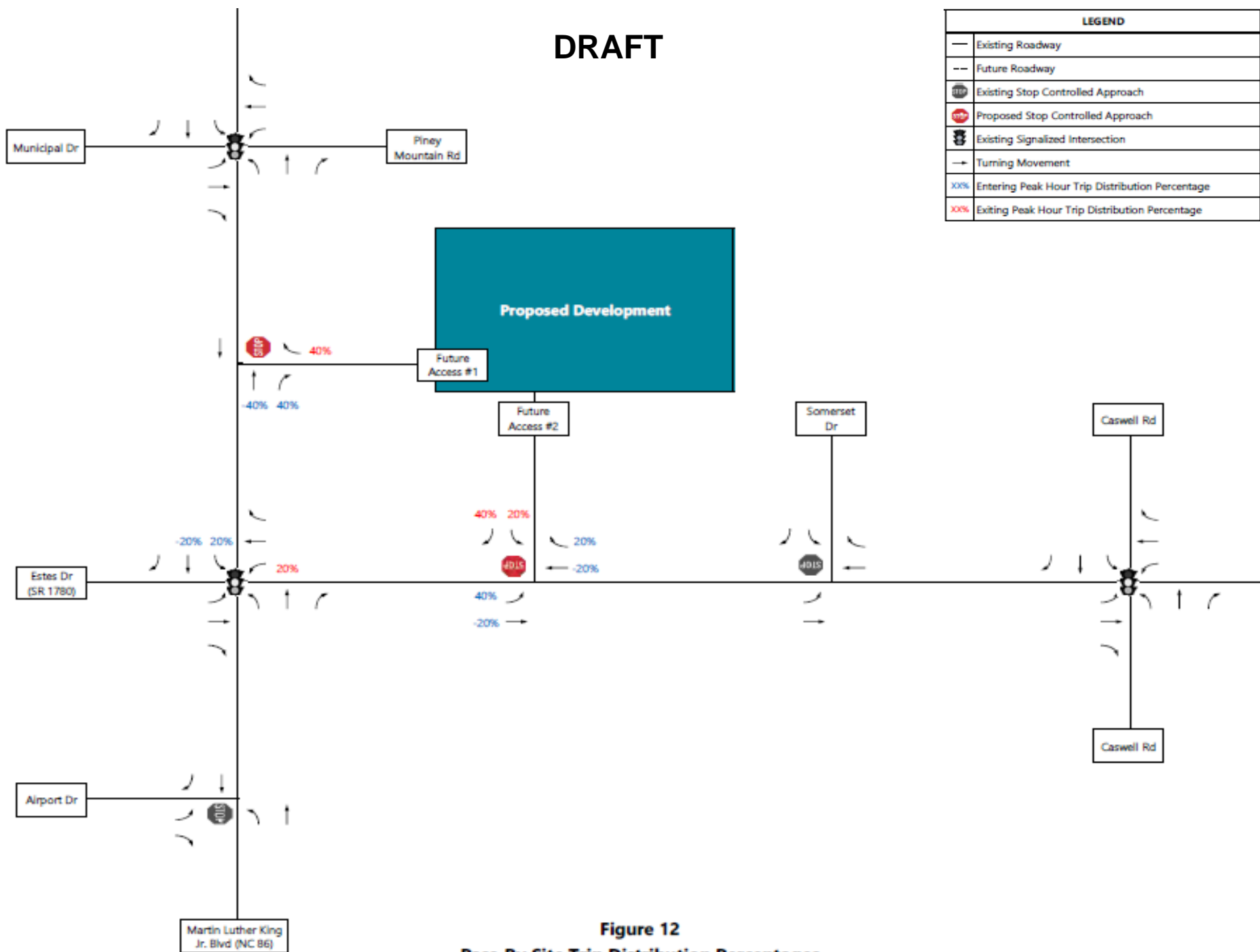
- 361 Mid-Rise Apartments
- 58 Townhomes
- 11,596-sf Mixed-Use
 - 3,032-sf Small Office Building
 - 8,564-sf Retail
- 10% Transit Reduction assumed due to existing bus facilities adjacent to the site.
- Site is expected to generate 2,950 daily external trips.
 - 210 AM peak hour trips
 - 219 Noon peak hour trips
 - 228 PM peak hour trips

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LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Proposed Stop Controlled Approach
	Existing Signalized Intersection
	Turning Movement
	Entering Peak Hour Trip Distribution Percentage
	Exiting Peak Hour Trip Distribution Percentage



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Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

Build (2024) Results



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Intersection and Approach	Traffic Control	Build (2024)		
		AM	Noon	PM
Martin Luther King Jr. Boulevard (NC 86) and Airport Road	Unsignalized	-	-	-
Eastbound		C-19.2	B-13.4	C-17.8
Martin Luther King Jr. Boulevard (NC 86) and Estes Drive (SR 1750/SR 1780)	Signalized	D (36.2)	C (31.8)	D (52.3)
Eastbound		E-58.4	D-44.1	E-66.5
Westbound		D-48.8	D-48.5	E-69.9
Northbound		C-33.4	C-24.9	D-50.3
Southbound		C-23.5	C-20.1	C-33.5
Martin Luther King Jr. Boulevard (NC 86) and Piney Mountain Road/Municipal Drive	Signalized	A (8.6)	A (5.1)	B (10.8)
Eastbound		E-61.0	E-59.4	E-72.0
Westbound		E-65.4	E-58.0	E-71.3
Northbound		A-4.3	A-2.4	A-5.5
Southbound		A-3.3	A-1.2	A-8.6
Martin Luther King Jr. Boulevard (NC 86) and Homestead Road (SR 1777)/Church Driveway	Signalized	C (23.2)	C (21.8)	C (20.7)
Eastbound		D-53.1	D-46.6	D-54.6
Westbound		D-51.3	D-45.5	E-58.6
Northbound		B-10.9	B-19.6	B-13.3
Southbound		C-21.4	B-13.3	B-19.6
Estes Drive and Somerset Drive	Unsignalized	-	-	-
Southbound		C-21.1	C-18.2	E-36.1
Estes Drive and Casewell Drive	Signalized	B (14.7)	A (9.9)	C (21.1)
Eastbound		A-7.8	A-3.8	A-8.0
Westbound		B-14.3	A-9.3	C-24.6
Northbound		C-34.4	D-37.3	C-35.0
Southbound		D-48.9	D-46.7	E-57.3
Franklin Street (SR 1010) and Estes Drive (SR 1750)	Signalized	D (52.9)	D (50.2)	E (69.3)
Eastbound		E-70.1	D-53.4	E-72.7
Westbound		D-42.0	D-46.9	F-81.7
Northbound		D-42.7	D-51.1	E-61.8
Southbound		D-48.4	D-49.7	E-65.1
Martin Luther King Jr. Boulevard (NC 86) and Future Access #1	Unsignalized	-	-	-
Westbound		B-13.3	B-12.5	C-23.2
Estes Drive (SR 1750) and Future Access #2	Unsignalized	-	-	-
Southbound		F-60.5	E-36.0	F-166.5

Aura Chapel Hill Mixed-Use Development

Traffic Impact Analysis Methodology and Results

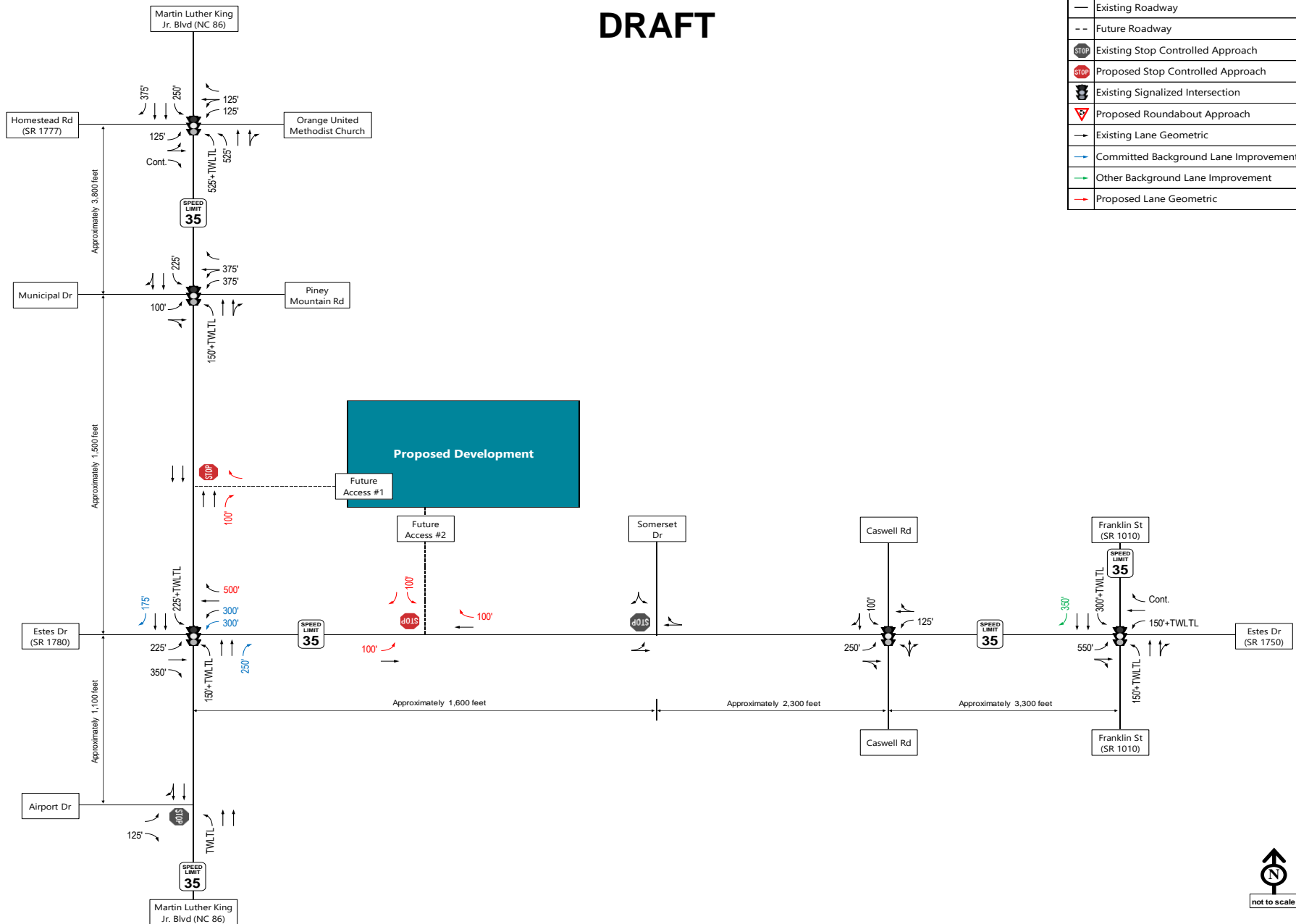
Recommended Improvements



- **DRAFT**
 - Right-in/right-out only access along Future Access #1 at Martin Luther King Jr. Blvd (NC 86)
 - Construct an exclusive northbound right-turn lane with 100 ft of storage.
 - Provide a high-visibility crosswalk across the driveway.
- Full movement access along Future Access #2 at Estes Dr.
 - Single ingress lane with two (2) egress lanes. Provide at least 100 feet of internal protected storage for both lanes.
 - Construct an exclusive eastbound left-turn lane with at least 100 ft of storage.
 - Construct an exclusive westbound right-turn lane with at last 100 ft of storage.
 - Provide a high-visibility crosswalk across the driveway.
- Extend the storage of the existing westbound right-turn lane along Estes Dr at Martin Luther King Jr. Blvd (NC 86) to 500 ft.

Intersection and Approach	Traffic Control	Existing (2020)			No-Build (2024)			Build (2024)			Build (2024) with Improvements		
		AM	Noon	PM	AM	Noon	PM	AM	Noon	PM	AM	Noon	PM
Martin Luther King Jr. Boulevard (NC 86) and Airport Road	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-
Eastbound		C-18.0	B-12.8	C-16.4	C-18.9	B-13.3	C-17.6	C-19.2	B-13.4	C-17.8	C-19.2	B-13.4	C-17.8
Martin Luther King Jr. Boulevard (NC 86) and Estes Drive (SR 1750/SR 1780)	Signalized	D (38.4)	C (32.6)	D (54.2)	D (35.4)	C (30.1)	D (48.8)	D (36.2)	C (31.8)	D (52.3)	D (36.2)	C (31.7)	D (52.3)
Eastbound		E-56.6	D-53.2	E-63.4	E-57.8	D-43.8	E-64.3	E-58.4	D-44.1	E-66.5	E-58.4	D-44.1	E-66.5
Westbound		D-37.0	D-43.5	F-82.3	D-47.3	D-48.7	E-68.3	D-48.8	D-48.5	E-69.9	D-48.8	D-48.5	E-69.9
Northbound		D-42.4	C-25.1	D-52.5	C-31.1	C-22.8	D-48.4	C-33.4	C-24.9	D-50.3	C-33.4	C-24.7	D-50.3
Southbound		C-29.5	C-21.1	C-28.1	C-23.6	B-16.8	C-25.6	C-23.5	C-20.1	C-33.5	C-23.5	B-20.0	C-33.5
Martin Luther King Jr. Boulevard (NC 86) and Piney Mountain Road/Municipal Drive	Signalized	A (8.4)	A (5.4)	B (10.3)	A (8.6)	A (5.1)	B (10.6)	A (8.6)	A (5.1)	B (10.8)	A (8.6)	A (5.1)	B (10.8)
Eastbound		E-61.0	E-59.4	E-71.8	E-61.0	E-59.4	E-72.0	E-61.0	E-59.4	E-72.0	E-61.0	E-59.4	E-72.0
Westbound		E-65.3	E-57.6	E-70.9	E-65.5	E-57.7	E-71.3	E-65.4	E-58.0	E-71.3	E-65.4	E-58.0	E-71.3
Northbound		A-3.9	A-2.5	A-4.2	A-4.6	A-2.2	A-5.2	A-4.3	A-2.4	A-5.5	A-4.3	A-2.4	A-5.5
Southbound		A-3.0	A-1.3	A-8.9	A-3.0	A-1.5	A-8.3	A-3.3	A-1.2	A-8.6	A-3.3	A-1.2	A-8.6
Martin Luther King Jr. Boulevard (NC 86) and Homestead Road (SR 1777)/Church Driveway	Signalized	C (22.6)	C (21.3)	C (20.2)	C (23.2)	C (21.1)	C (20.6)	C (23.2)	C (21.8)	C (20.7)	C (23.2)	C (21.8)	C (20.7)
Eastbound		D-53.1	D-46.3	D-54.8	D-53.1	D-46.5	D-54.7	D-53.1	D-46.6	D-54.6	D-53.1	D-46.6	D-54.6
Westbound		D-51.3	D-45.5	E-58.6	D-51.3	D-45.5	E-58.6	D-51.3	D-45.5	E-58.6	D-51.3	D-45.5	E-58.6
Northbound		B-10.4	B-18.4	B-12.8	B-11.0	B-18.0	B-13.3	B-10.9	B-19.6	B-13.3	B-10.9	B-19.6	B-13.3
Southbound		B-19.9	B-12.6	B-18.6	C-21.0	B-13.0	B-19.3	C-21.4	B-13.3	B-19.6	C-21.4	B-13.3	B-19.6
Estes Drive and Somerset Drive	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-
Southbound		C-18.2	C-15.4	D-25.8	C-19.7	C-16.9	D-32.2	C-21.1	C-18.2	E-36.1	C-21.1	C-18.2	E-36.1
Estes Drive and Casewll Drive	Signalized	B (13.9)	A (9.7)	B (18.6)	B (14.3)	A (9.8)	B (19.6)	B (14.7)	A (9.9)	C (21.1)	B (14.7)	A (9.9)	C (21.1)
Eastbound		A-6.7	A-3.3	A-6.6	A-7.1	A-3.6	A-7.3	A-7.8	A-3.8	A-8.0	A-7.8	A-3.8	A-8.0
Westbound		B-12.9	A-8.4	B-19.7	B-13.7	A-8.8	C-21.7	B-14.3	A-9.3	C-24.6	B-14.3	A-9.3	C-24.6
Northbound		C-34.5	D-37.0	C-34.2	C-34.3	D-36.9	C-34.8	C-34.4	D-37.3	C-35.0	C-34.4	D-37.3	C-35.0
Southbound		D-48.8	D-46.4	D-54.0	D-48.9	D-46.6	E-56.8	D-48.9	D-46.7	E-57.3	D-48.9	D-46.7	E-57.3
Franklin Street (SR 1010) and Estes Drive (SR 1750)	Signalized	D (48.5)	D (47.9)	E (58.0)	D (49.8)	D (49.1)	E (64.0)	D (52.9)	D (50.2)	E (69.3)	D (43.1)	D (46.4)	E (59.6)
Eastbound		E-66.0	E-55.9	E-67.0	E-66.1	D-54.6	E-69.2	E-70.1	D-53.4	E-72.7	D-47.8	D-53.4	E-70.0
Westbound		D-49.5	D-49.6	E-62.5	D-47.1	D-47.7	E-68.6	D-42.0	D-46.9	F-81.7	D-45.7	D-46.9	E-66.0
Northbound		D-37.3	D-44.2	D-54.2	D-39.2	D-48.0	E-63.0	D-42.7	D-51.1	E-61.8	D-46.1	D-51.1	E-68.4
Southbound		D-39.7	D-43.5	D-52.7	D-43.0	D-46.7	E-58.2	D-48.4	D-49.7	E-65.1	D-36.1	D-36.4	D-40.0
Martin Luther King Jr. Boulevard (NC 86) and Future Access #1	Unsignalized	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Westbound		---	---	---	---	---	---	B-13.3	B-12.5	C-23.2	B-13.2	B-12.4	C-22.8
Estes Drive (SR 1750) and Future Access #2	Unsignalized	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Southbound		---	---	---	---	---	---	F-60.5	E-36.0	F-166.5	E-45.6	D-29.4	F-97.3

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Aura Chapel Hill Mixed-Use Development

Next Steps / Schedule

- Receive input from public
- Finalize Transportation Impact Analysis
- Present to Town Council



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Aura Chapel Hill Mixed-Use Development Transportation Impact Analysis

Public Meeting Presentation

QUESTIONS AND DISCUSSION

