Appendix A

Preferred Alternative
Figures A-1 through A-6

Prepared For:

NORTH CAROLINA Turnpike Authority

PREFERRED ALTERNATIVE

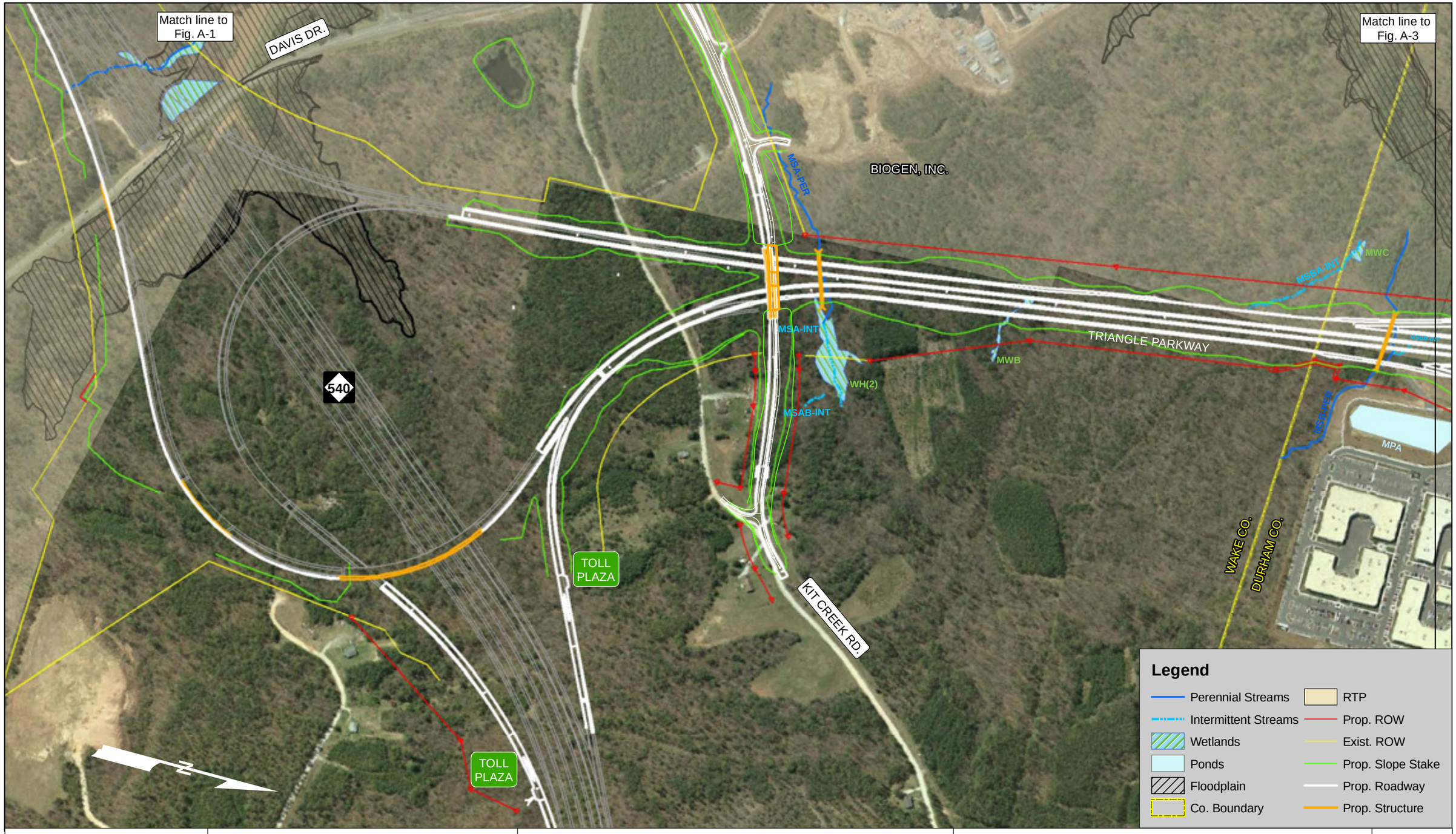
U-4763B Triangle Parkway
New Location From NC 540 to I-40
Durham and Wake Counties, North Carolina

0 250 500 1,000 1,500 Feet

Aerial Orthophotography: Cary NW, Green Level NE, Southwest Durham SE and Southeast Durham SW
Map Date: September 2007

Figure

A-1



Prepared For:

NORTH CAROLINA Turnpike Authority

PREFERRED ALTERNATIVE

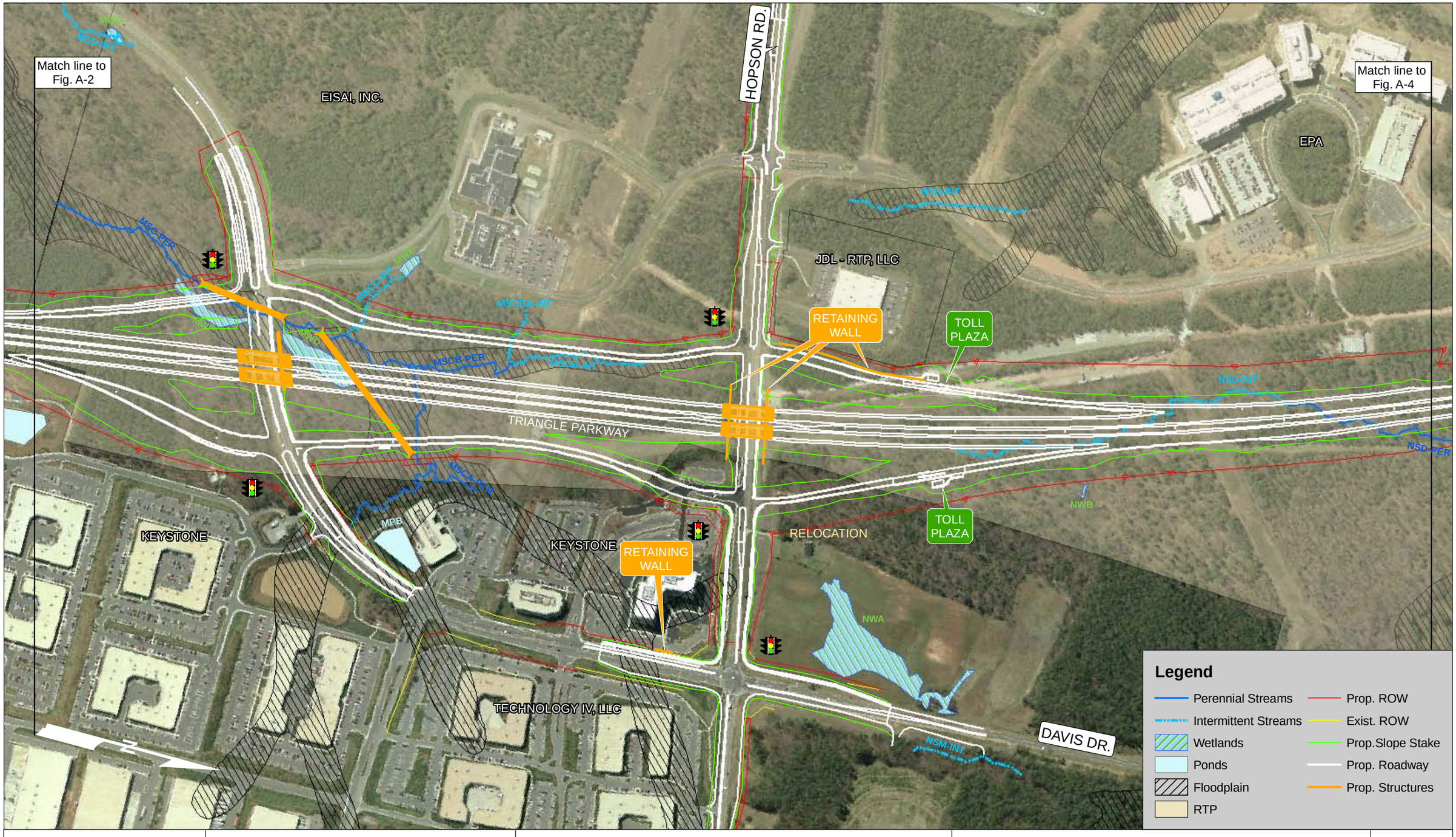
U-4763B Triangle Parkway
New Location From NC 540 to I-40
Durham and Wake Counties, North Carolina

0 250 500 1,000 1,500 Feet

Aerial Orthophotography: Cary NW, Green Level NE, Southwest Durham SE and Southeast Durham SW
Map Date: September 2007

Figure

A-2



Prepared For:

NORTH CAROLINA Turnpike Authority

PREFERRED ALTERNATIVE

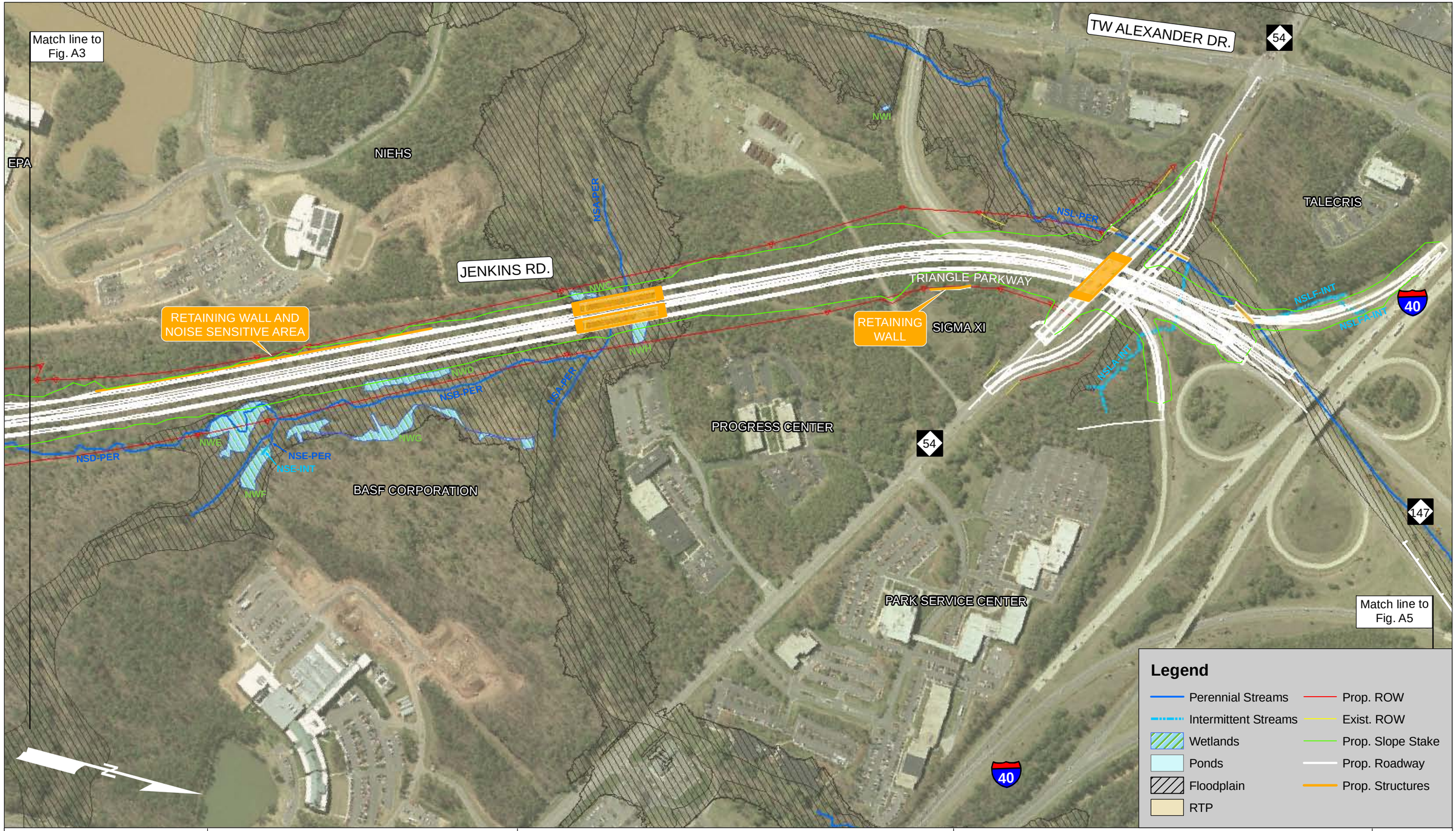
U-4763B Triangle Parkway
New Location From NC 540 to I-40
Durham and Wake Counties, North Carolina

0 250 500 1,000 1,500 Feet

Aerial Orthophotography: Cary NW, Green Level NE, Southwest Durham SE and Southeast Durham SW
Map Date: September 2007

Figure

A-3



Prepared For:

NORTH CAROLINA Turnpike Authority

PREFERRED ALTERNATIVE

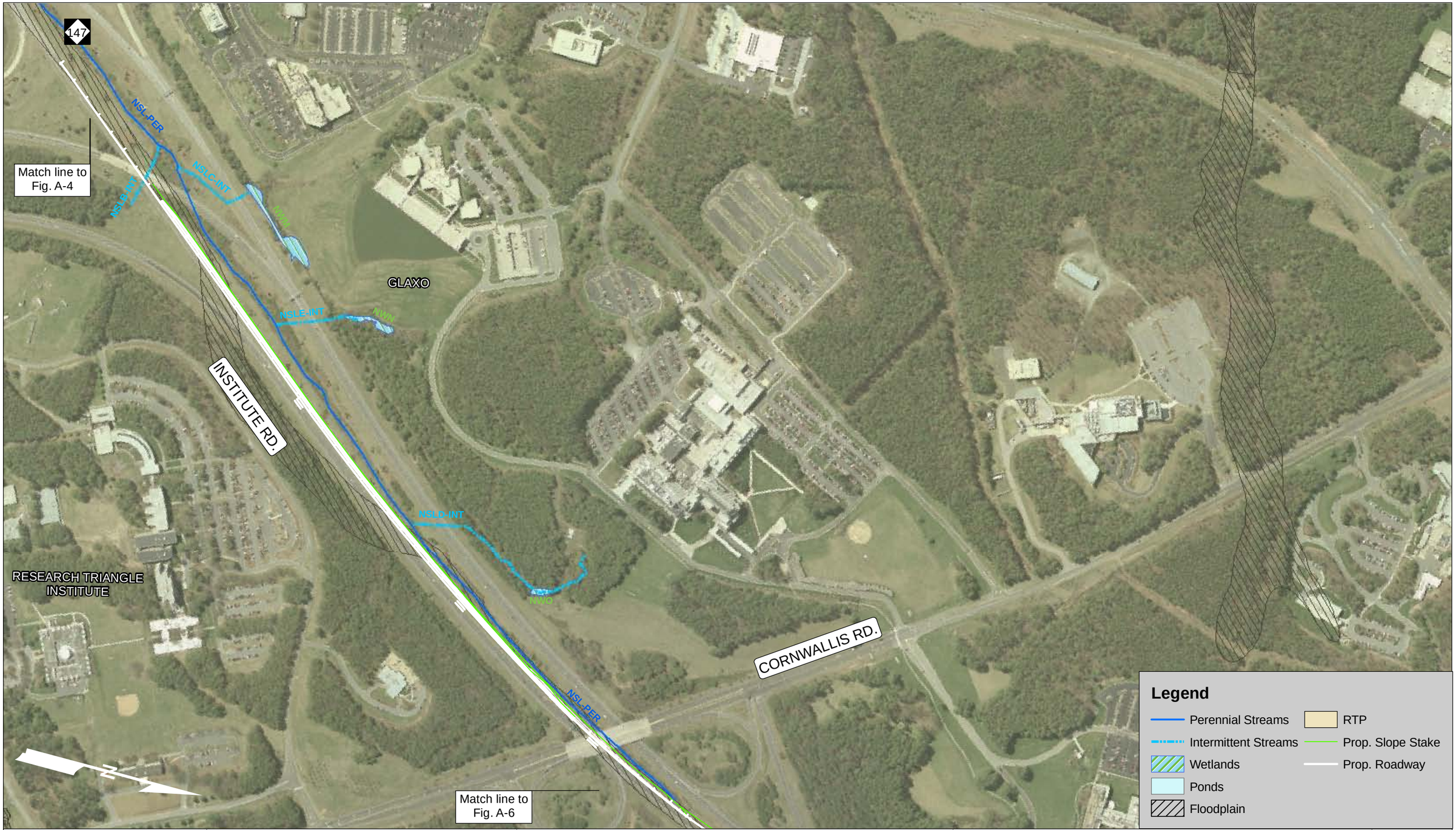
U-4763B Triangle Parkway
New Location From NC 540 to I-40
Durham and Wake Counties, North Carolina

0 250 500 1,000 1,500 Feet

Aerial Orthophotography: Cary NW, Green Level NE, Southwest Durham SE and Southeast Durham SW
Map Date: September 2007

Figure

A-4



Prepared For:

NORTH CAROLINA Turnpike Authority

PREFERRED ALTERNATIVE

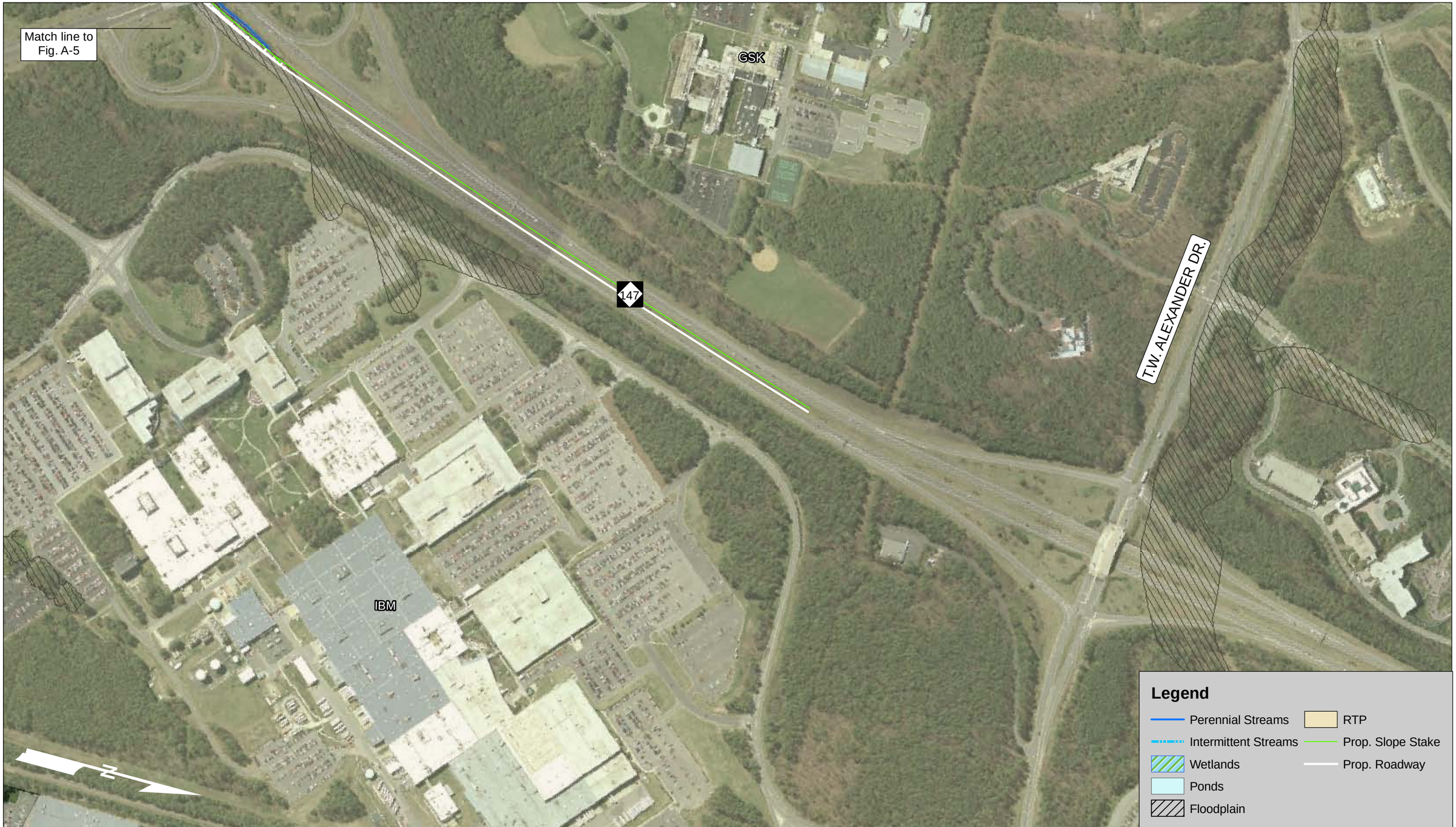
U-4763B Triangle Parkway
New Location From NC 540 to I-40
Durham and Wake Counties, North Carolina

0 250 500 1,000 1,500 Feet

Aerial Orthophotography: Cary NW, Green Level NE, Southwest Durham SE and Southeast Durham SW
Map Date: September 2007

Figure

A-5



Prepared For:

NORTH CAROLINA Turnpike Authority

PREFERRED ALTERNATIVE

U-4763B Triangle Parkway
New Location From NC 540 to I-40
Durham and Wake Counties, North Carolina

0 250 500 1,000 1,500 Feet

Aerial Orthophotography: Cary NW, Green Level NE, Southwest Durham SE and Southeast Durham SW
Map Date: September 2007

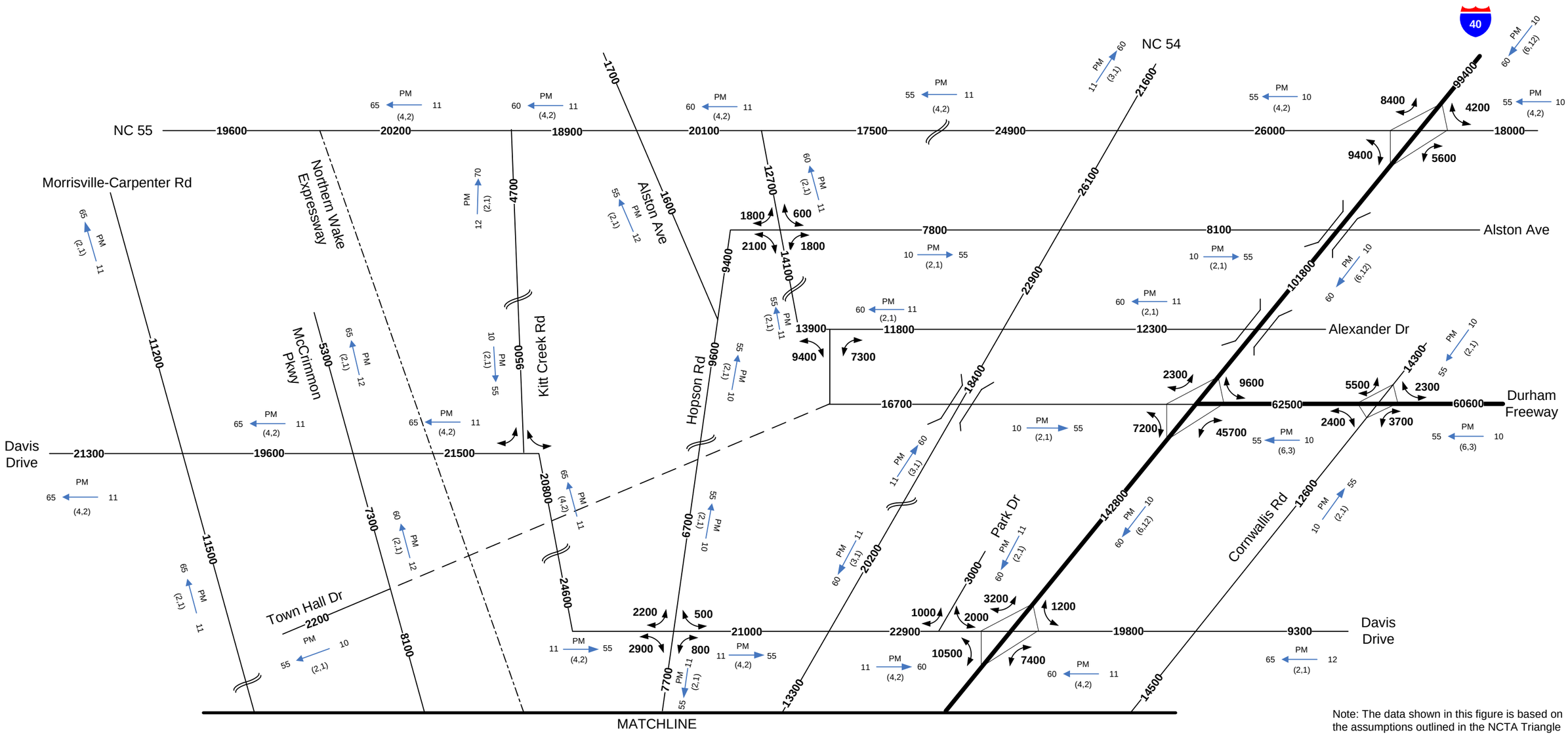
Figure

A-6

Appendix B

Traffic Figures
Design criteria

2006 Existing AADT Volumes



Note: The data shown in this figure is based on the assumptions outlined in the NCTA Triangle Parkway Traffic Forecast.

LEGEND

- = Breakline
- = Proposed Triangle Parkway
- = Proposed Other Freeway
- ### = VPD - # of Vehicles per Day
- DHV = Design Hourly Volume = K30
  K30 = 30th Highest Hourly Volume
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
  Reverse Flow for AM Peak
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

LOCATION: TRIANGLE PARKWAY

2006 Existing AADT Volumes

COUNTY: Wake/ Durham **DIV:** 5 **DATE:** March, 2007

TIP Proj # U-4763B

NOT TO SCALE

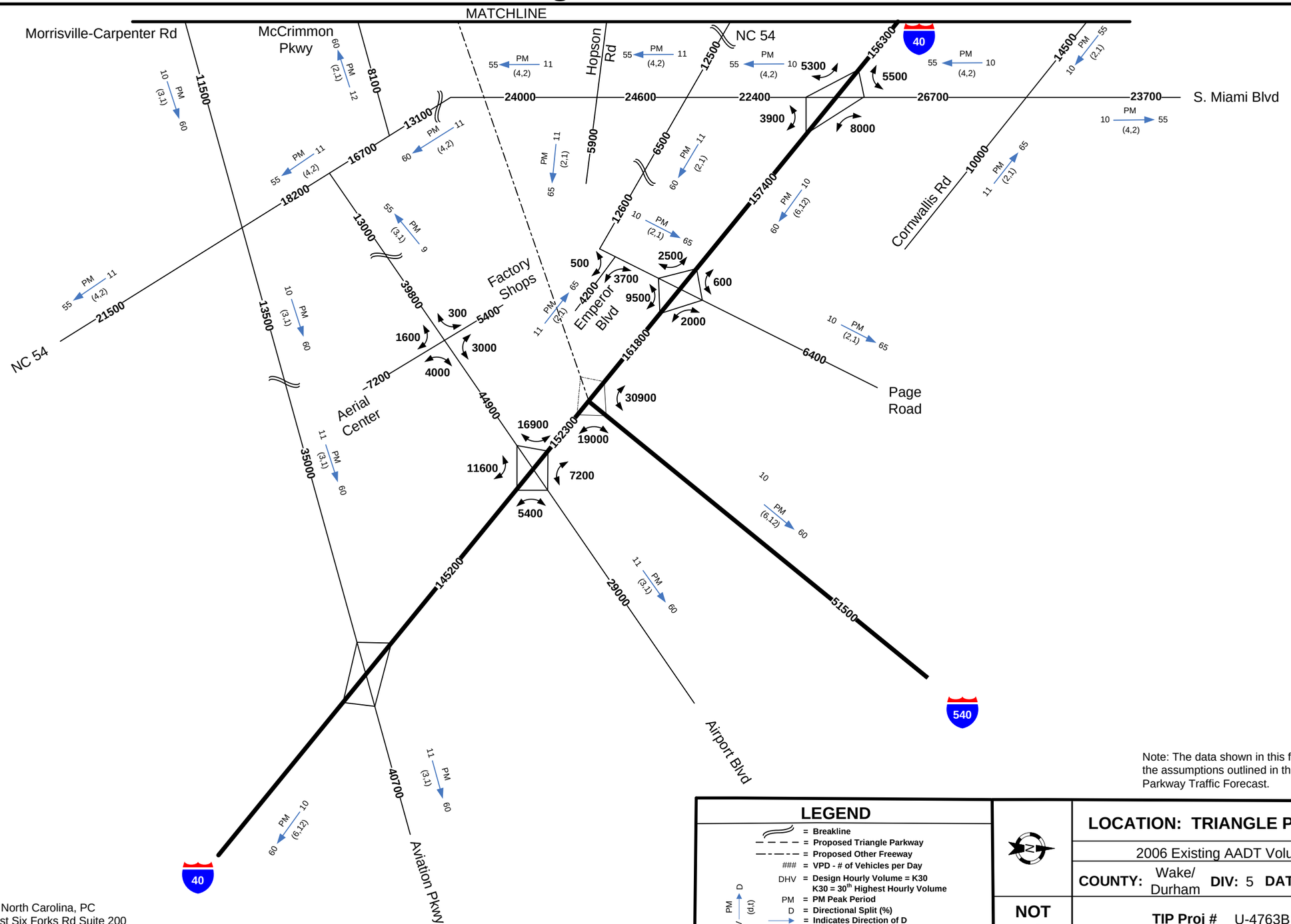
FIGURE 1a

NORTH CAROLINA Turnpike Authority

HNTB

HNTB, North Carolina, PC
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

2006 Existing AADT Volumes



NORTH CAROLINA Turnpike Authority

HNTB

HNTB, North Carolina, PC
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

Note: The data shown in this figure is based on the assumptions outlined in the NCTA Triangle Parkway Traffic Forecast.

LEGEND

- = Breakline
- = Proposed Triangle Parkway
- = Proposed Other Freeway
- ### = VPD - # of Vehicles per Day
- DHV = Design Hourly Volume = K30
  K30 = 30th Highest Hourly Volume
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
  Reverse Flow for AM Peak
- (d,t) = Duals, TT-ST's (%)
- = Daily Turn Movements

PM D / DHV (d,t)

NOT TO SCALE

LOCATION: TRIANGLE PARKWAY

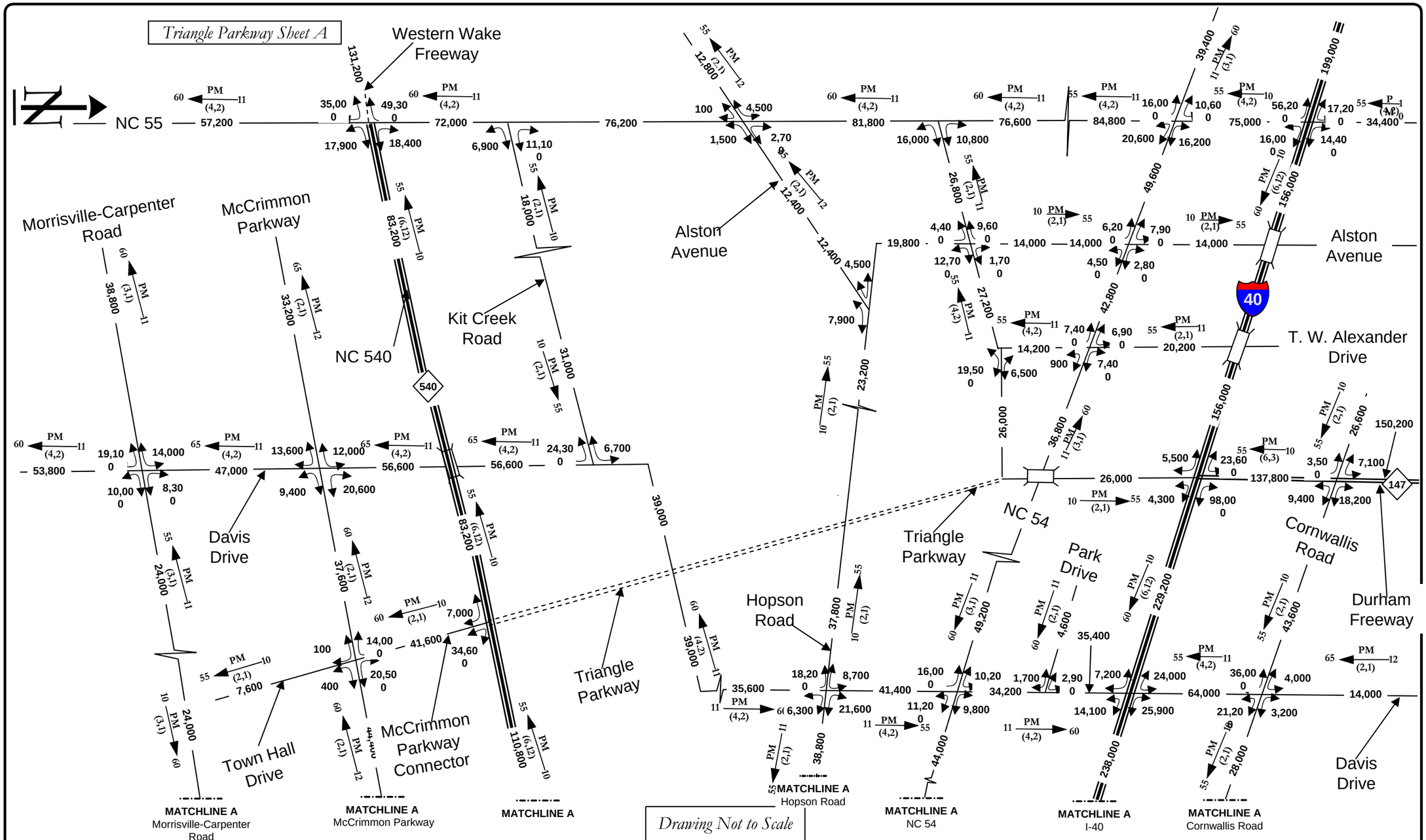
2006 Existing AADT Volumes

COUNTY: Wake/ Durham **DIV:** 5 **DATE:** March, 2007

TIP Proj # U-4763B

FIGURE 1b

Triangle Parkway Sheet A



Drawing Not to Scale

2030 NO-BUILD TOLL DAILY FORECAST VOLUMES
Figure 2a

LEGEND

DHV —PM (d, t)→ D

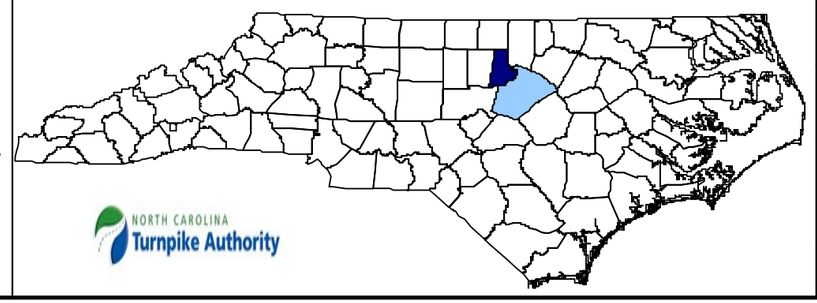
DHV = DESIGN HOURLY VOLUME (%) = K30

K30 = 30th HIGHEST HOURLY VOLUME

PM = PM PEAK PERIOD

D = DIRECTIONAL SPLIT (%)
INDICATES DIRECTION OF D
REVERSE FOR AM PEAK

(d,t) DUALS, TT-ST'S (%)



NORTH CAROLINA Turnpike Authority

LOCATION: Triangle Parkway—From NC 540 to I-40

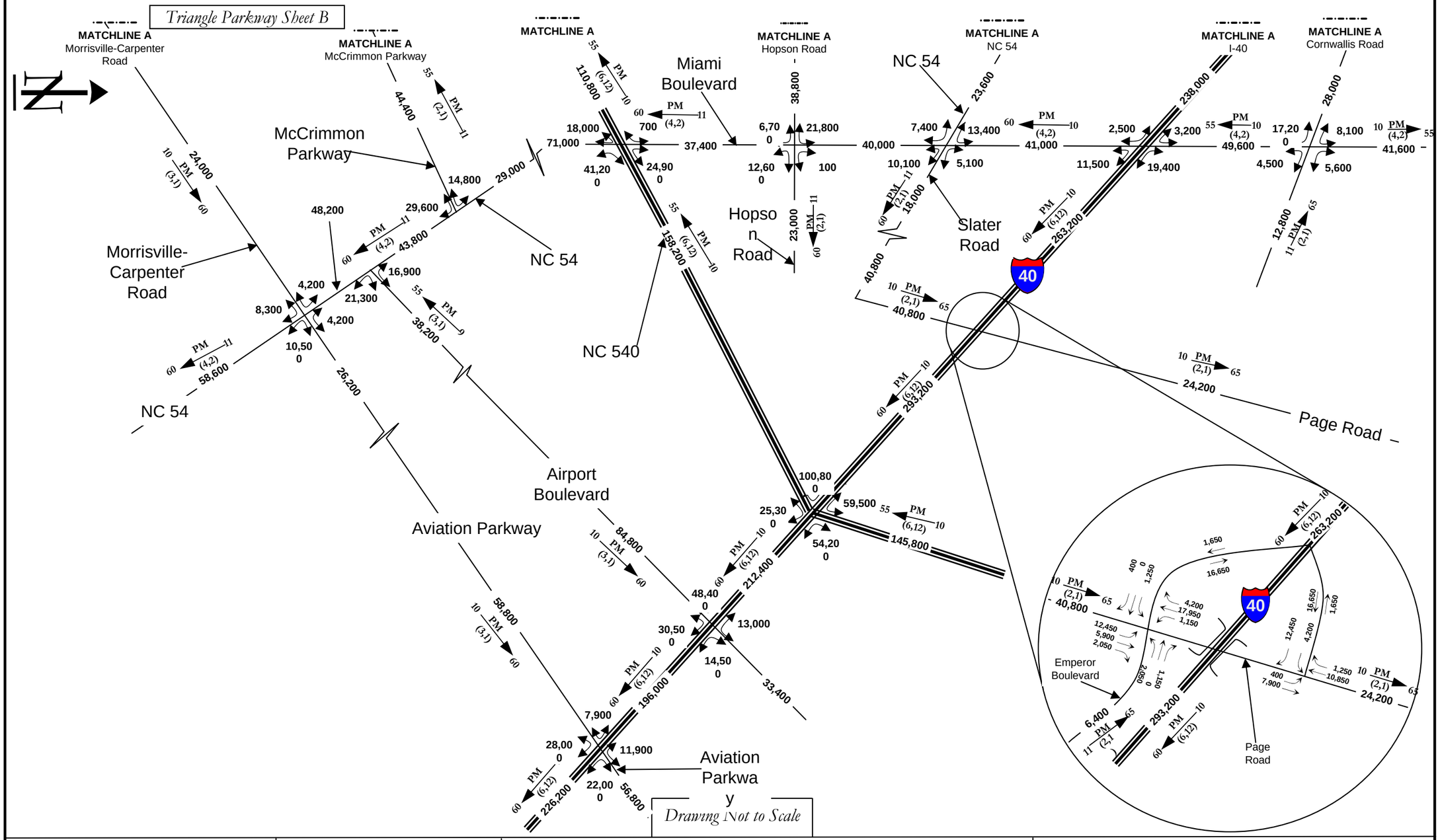
PROJECT: Triangle Parkway

COUNTIES: WAKE and DURHAM

DIVISION: **DATE: March, 2007**

TIP Project No. U-4763B

Triangle Parkway Sheet B



2030 NO-BUILD TOLL DAILY FORECAST VOLUMES
Figure 2b

LEGEND

DHV = PM (d, t) → D

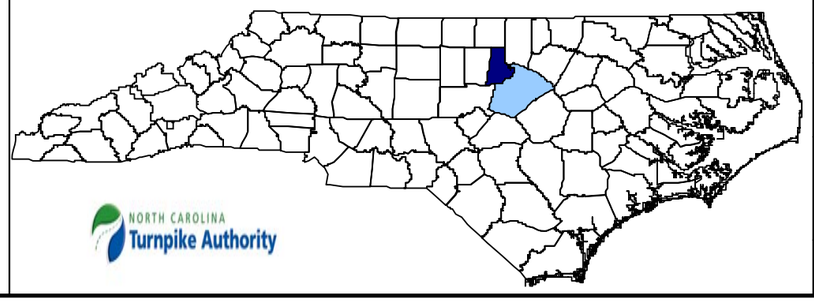
DHV = DESIGN HOURLY VOLUME (%) = K30

K30 = 30th HIGHEST HOURLY VOLUME

PM = PM PEAK PERIOD

D = DIRECTIONAL SPLIT (%)
INDICATES DIRECTION OF D
REVERSE FOR AM PEAK

(d,t) DUALS, TT-ST'S (%)



NORTH CAROLINA Turnpike Authority

LOCATION: Triangle Parkway—From NC 540 to I-40

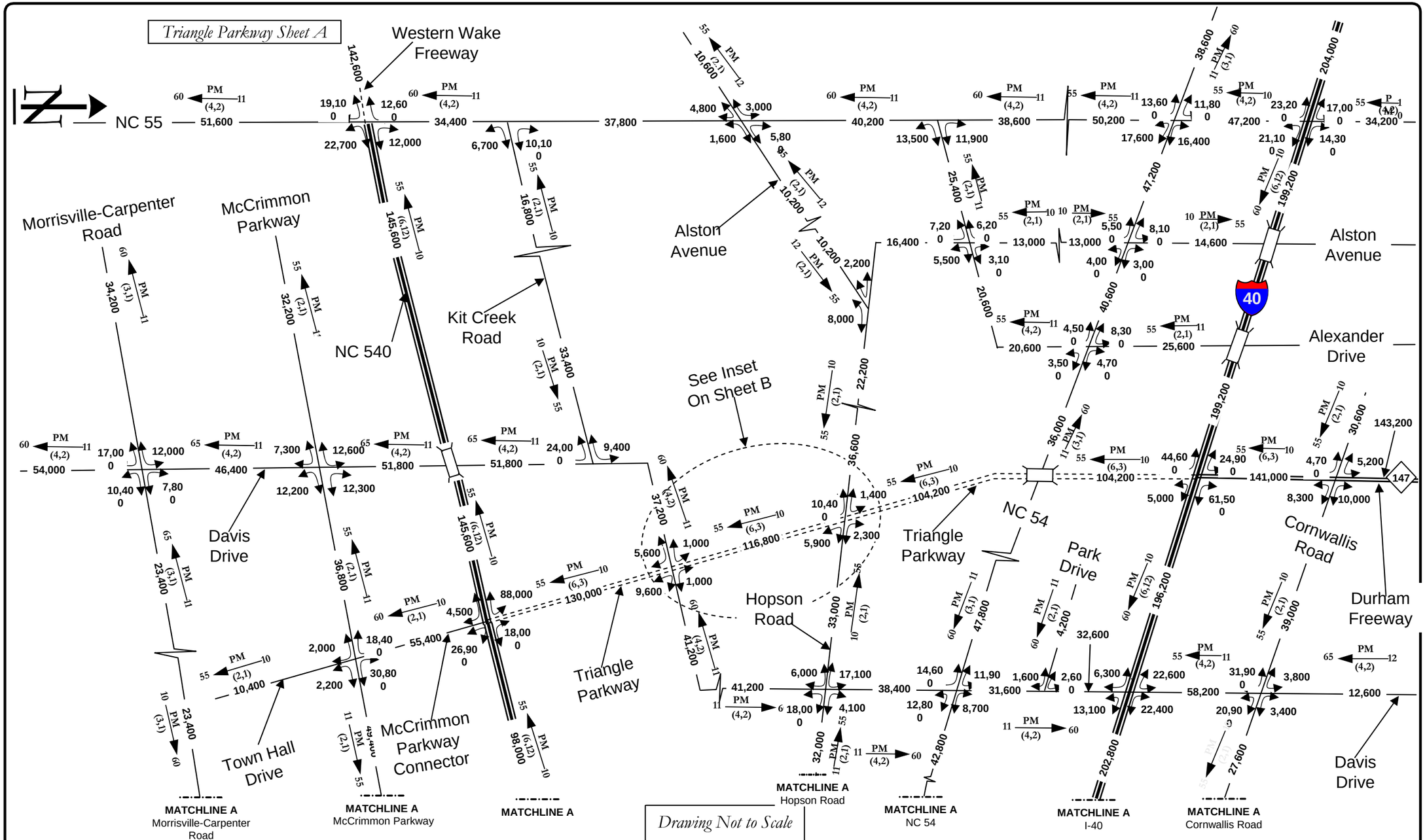
PROJECT: Triangle Parkway

COUNTIES: WAKE and DURHAM

DIVISION: **DATE: March, 2007**

TIP Project No. U-4763B

Triangle Parkway Sheet A



Drawing Not to Scale

2030 BUILD TOLL DAILY FORECAST VOLUMES
Figure 3a

LEGEND

DHV — PM (d, t) → D

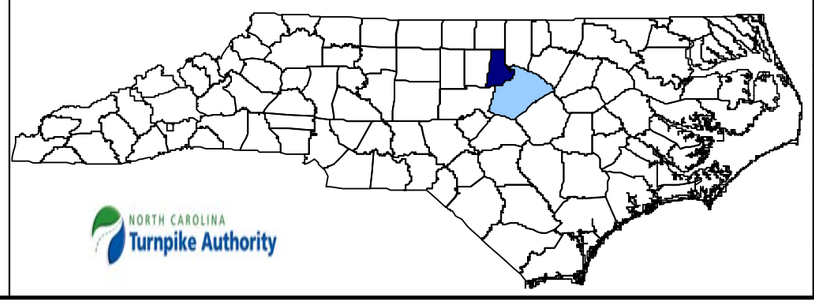
DHV = DESIGN HOURLY VOLUME (%) = K30

K30 = 30th HIGHEST HOURLY VOLUME

PM = PM PEAK PERIOD

D = DIRECTIONAL SPLIT (%)
INDICATES DIRECTION OF D
REVERSE FOR AM PEAK

(d,t) DUALS, TT-ST'S (%)



NORTH CAROLINA Turnpike Authority

LOCATION: Triangle Parkway—From NC 540 to I-40

PROJECT: Triangle Parkway

COUNTIES: WAKE and DURHAM

DIVISION: **DATE: March, 2007**

TIP Project No. U-4763B

Triangle Parkway Sheet B

MATCHLINE A
Morrisville-Carpenter Road

MATCHLINE A
McCrimmon Parkway

MATCHLINE A

MATCHLINE A
Hopson Road

MATCHLINE A
NC 54

MATCHLINE A
I-40

MATCHLINE A
Cornwallis Road

McCrimmon Parkway

Morrisville-Carpenter Road

NC 54

Miami Boulevard

Hopson Road

Slater Road

NC 540

Airport Boulevard

Aviation Parkway

Page Road

Inset from Sheet A

Davis Drive

Triangle Parkway

Hopson Road

Aviation Parkway

Emperor Boulevard

Page Road

Drawing Not to Scale

2030 BUILD TOLL DAILY FORECAST VOLUMES
Figure 3b

LEGEND

DHV — PM (d, t) → D

DHV = DESIGN HOURLY VOLUME (%) = K30

K30 = 30th HIGHEST HOURLY VOLUME

PM = PM PEAK PERIOD

D = DIRECTIONAL SPLIT (%)
INDICATES DIRECTION OF D
REVERSE FOR AM PEAK

(d,t) DUALS, TT-ST'S (%)

NORTH CAROLINA Turnpike Authority

LOCATION: Triangle Parkway—From NC 540 to I-40

PROJECT: Triangle Parkway

COUNTIES: WAKE and DURHAM

DIVISION: **DATE: March, 2007**

TIP Project No. U-4763B

PROPOSED DESIGN CRITERIA

TURNPIKE AUTHORITY PROJECT: Triangle Parkway **TIP: U-4763 B**

DIVISION: 5

COUNTY: WAKE **PAGE: 1 of 5**

PROJECT DESCRIPTION: Extension of NC 147 between NC 540 in Wake County and I-40 in Durham County

DATE: 06/07/06
Rev 07/18/06

ROUTE	Triangle Parkway	REFERENCE
LINE	-L-	OR REMARKS
TRAFFIC DATA		
ADT OPEN YR = 2010	14,000	
ADT INTERIM YR = 2020	38,100	
ADT DESIGN YR = 2030	72,000	
TTST	3%	
DUALS	6%	
DHV	10%	
DIR	55%	
CLASSIFICATION	Freeway	
TERRAIN TYPE	Rolling	
DESIGN SPEED mph	70 mph	
POSTED SPEED mph	65 mph	
PROP. R/W WIDTH ft	Min. 350'	
CONTROL OF ACCESS	Full Control	
RUMBLE STRIPS (Y/N)	Yes	
TYPICAL SECTION TYPE	Six-Lane divided shoulder section with 46' wide grassed median	
LANE WIDTH ft	12'	
SIDEWALKS (Y/N)	No	
BICYCLE LANES (Y/N)	No	
MEDIAN WIDTH ft	46' Grassed	
MED. PROTECT. (GR/BARRIER)	Yes (Guiderail)	
SHOULDER WIDTH (total)		
MEDIAN ft	12'	
OUTSIDE w/o GR ft	12'	
OUTSIDE w/ GR ft	15'	
PAVED SHOULDER		
OUTSIDE TOTAL/FDPS ft	10'/10' FDPS	-Y1- Matched U-4026 Typ.
MEDIAN TOTAL/FDPS ft	10'/10' FDPS	
GRADE		
MAX.	4%	
MIN.	0.3%	
K VALUE		
SAG	181	
CREST	247	
HORIZ. ALIGN.		
MAX. SUPER.	.08	
MIN. RADIUS ft	1810'	
SPIRAL (Y/N)	Yes	
CROSS SLOPES		
PAVEMENT	0.02	
PAVED SHOULDER	0.04 outside / 0.04 inside	-Y1- Matched U-4026 Typ.
TURF SHOULDER	0.08 outside / 0.08 inside	
MEDIAN DITCH	6:1	
DITCH TYPICAL (A,B,C)	A	Y1-2A, F-1
CLEAR ZONE ft	30'	
TYPICAL SECTION NO.	1	

NOTES:

PROPOSED DESIGN CRITERIA

TIP: U-4763 B

DATE: 06/07/06
Rev 07/18/06

ROUTE	Davis Drive		Hobson Road		REFERENCE
LINE	-Y1-		-Y2-		OR REMARKS
TRAFFIC DATA					
ADT LET YR = 2010					
ADT DESIGN YR = 2020	28,100		19,400		
ADT DESIGN YR = 2030	35,020		33,880		
TTST	2%		1%		
DUALS	4%		2%		
DHV	11%		10%		
DIR	60%		55%		
CLASSIFICATION	Urban Collector		Urban Collector		
TERRAIN TYPE	Rolling		Rolling		
DESIGN SPEED mph	55 mph	50 mph	55 mph	50 mph	
POSTED SPEED mph	50 mph	45 mph	50 mph	45 mph	
PROP. R/W WIDTH ft	Var.	Var.	Var.	Var.	
CONTROL OF ACCESS	No	No	No	No	
RUMBLE STRIPS (Y/N)	No	No	No	No	
TYPICAL SECTION TYPE	Four-lane shoulder section with 46' wide grassed median	Four-lane divided curb & gutter section with 16' wide raised median	Four-lane shoulder section with 46' wide grassed median	Four-lane divided curb & gutter section with 16' wide raised median	
LANE WIDTH ft	12'	12'	12'	12'	
SIDEWALKS (Y/N)	Yes	Yes	Yes	Yes	
BICYCLE LANES (Y/N)	Yes	Yes	Yes	Yes	
MEDIAN WIDTH ft	46' Grassed	16' Raised	46' Grassed	16' Raised	
MED. PROTECT. (GR/BARRIER)	No	NA	No	NA	
SHOULDER WIDTH (total)					
MEDIAN ft	6'	NA	6'	NA	
OUTSIDE w/o GR ft	10'	10' Berm	8'	10' Berm	
OUTSIDE w/ GR ft	13'	14' Berm	11'	14' Berm	
PAVED SHOULDER					
OUTSIDE TOTAL/FDPS ft	8'/8' FDPS	NA	4'/4' FDPS	NA	
MEDIAN TOTAL/FDPS ft	4'/4' FDPS	NA	2'/2' FDPS	NA	
GRADE					
MAX.	8%	8%	8%	8%	
MIN.	0.3%	0.3%	0.3%	0.3%	
K VALUE					
SAG	115	96	115	96	
CREST	114	84	114	84	
HORIZ. ALIGN.					
MAX. SUPER.	.06	.04	.06	.04	
MIN. RADIUS ft	1060'	926'	1060'	926'	
SPIRAL (Y/N)	Yes	Yes	Yes	Yes	
CROSS SLOPES					
PAVEMENT	.02	.02	.02	.02	
PAVED SHOULDER	8' FDPS - 0.04	NA	4' FDPS - 0.02	NA	
			.08	NA	
TURF SHOULDER	08	.02 Berm	.08	.02 Berm	
MEDIAN DITCH	6:1	NA	6:1	NA	
DITCH TYPICAL (A,B,C)	B	NA	B	NA	Y1-2A, F-1
CLEAR ZONE ft	26'-30'	6' from face	26'- 30'	6' from face	
TYPICAL SECTION NO.	4	3	5	3	

NOTES:

PROPOSED DESIGN CRITERIA

TIP: U-4763 B

PAGE: 3 of 5

DATE: 06/07/06
Rev 07/18/06

ROUTE	NC 54		REFERENCE
LINE	-Y3-		OR REMARKS
TRAFFIC DATA			
ADT LET YR = 2010			
ADT DESIGN YR = 2020			
ADT DESIGN YR = 2030	49,800		
TTST	1%		
DUALS	3%		
DHV	11%		
DIR	60%		
CLASSIFICATION	Urban Collector		
TERRAIN TYPE	Rolling		
DESIGN SPEED mph	60 mph	50 mph	
POSTED SPEED mph	55 mph	45 mph	
PROP. R/W WIDTH ft	Var.	Var.	
CONTROL OF ACCESS	No	No	
RUMBLE STRIPS (Y/N)	No	No	
TYPICAL SECTION TYPE	Five-lane shoulder section	Five-lane curb & gutter section	
LANE WIDTH ft	12'	12'	
SIDEWALKS (Y/N)	No	Yes	
BICYCLE LANES (Y/N)	No	Yes	
MEDIAN WIDTH ft	NA	NA	
MED. PROTECT. (GR/BARRIER)	NA	NA	
SHOULDER WIDTH (total)			
MEDIAN ft	NA	NA	
OUTSIDE w/o GR ft	10'	10' Berm	
OUTSIDE w/ GR ft	13'	14' Berm	
PAVED SHOULDER			
OUTSIDE TOTAL/FDPS ft	10'/4'FDPS	NA	
MEDIAN TOTAL/FDPS ft	NA	NA	
GRADE			
MAX.	6%	8%	
MIN.	0.3%	0.3%	
K VALUE			
SAG	136	96	
CREST	151	84	
HORIZ. ALIGN.			
MAX. SUPER.	.06	.04	
MIN. RADIUS ft	1330'	926'	
SPIRAL (Y/N)	Yes	No	
CROSS SLOPES			
PAVEMENT	.02	.02	
PAVED SHOULDER	4' FDPS - 0.02	NA	
	6' PS - 0.04	NA	
TURF SHOULDER	NA	NA	
MEDIAN DITCH	NA	NA	
DITCH TYPICAL (A,B,C)	B	NA	Y1-2A, F-1
CLEAR ZONE ft	30'	6' from face	
TYPICAL SECTION NO.	7	6	

NOTES:

PROPOSED DESIGN CRITERIA

PREPARED BY:

TIP: U-4763 B

DATE: 06/07/06
Rev 07/18/06

ROUTE	Ramp C @ Davis	Loop C @ Davis	Ramp D @ Davis	Loop D @ Davis	REFERENCE
LINE	-Y1RPC-	-Y1LPC-	-Y1RPD-	-Y1LPD-	OR REMARKS
TRAFFIC DATA					
ADT LET YR = 2010	2000	2000	2000	2000	
ADT DESIGN YR = 2020	3100	1500	4200	1500	
ADT DESIGN YR = 2030	5700	2000	7800	2000	
TTST	1%	1%	1%	1%	
DUALS	1%	1%	1%	1%	
DHV	11%	11%	11%	11%	
DIR	60%	60%	60%	60%	
CLASSIFICATION	Freeway	Freeway	Freeway	Freeway	
TERRAIN TYPE	Rolling	Rolling	Rolling	Rolling	
DESIGN SPEED mph	50 mph	30 mph	50 mph	30 mph	
POSTED SPEED mph	45 mph	25 mph	45 mph	25 mph	
PROP. R/W WIDTH ft	Contain constr.	Contain constr.	Contain constr.	Contain constr.	
CONTROL OF ACCESS	Full Control	Full Control	Full Control	Full Control	
RUMBLE STRIPS (Y/N)	No	No	No	No	
TYPICAL SECTION TYPE	Shoulder	Shoulder (Outside) C&G (Inside)	Shoulder	Shoulder (Outside) C&G (Inside)	
LANE WIDTH ft	16'	16'	16'	16'	
SIDEWALKS (Y/N)	NA	No	NA	No	
BICYCLE LANES (Y/N)	NA	No	NA	No	
MEDIAN WIDTH ft	NA	NA	NA	NA	
MED. PROTECT. (GR/BARRIER)	NA	NA	NA	NA	
SHOULDER WIDTH (total)					
INSIDE	12'	C&G	12'	C&G	
OUTSIDE w/o GR ft	14'	12'	14'	12'	
OUTSIDE w/ GR ft	17'	NA	17'	NA	
PAVED SHOULDER					
OUTSIDE TOTAL/FDPS ft	4'/4' FDPS	4'/4' FDPS	4'/4' FDPS	4'/4' FDPS	
INSIDE TOTAL/FDPS ft	4'/4' FDPS	NA	4'/4' FDPS	NA	
GRADE					
MAX.	5.0%	6.0%	5.0%	6.0%	
MIN.	0.3%	0.3%	0.3%	0.3%	
K VALUE					
SAG	96	37	96	37	
CREST	84	19	84	19	
HORIZ. ALIGN.					
MAX. SUPER.	8%	8%	8%	8%	
MIN. RADIUS ft	760'	230'	760'	230'	
SPIRAL (Y/N)	Yes	Yes	Yes	Yes	
CROSS SLOPES					
PAVEMENT	0.02	0.02	0.02	0.02	
PAVED SHOULDER	0.02	0.02	0.02	0.02	
TURF SHOULDER	0.08	0.08	0.08	0.08	
MEDIAN DITCH	NA	NA	NA	NA	
DITCH TYPICAL (A,B,C)	A	A	A	A	Y1-2A, F-1
CLEAR ZONE ft	24'-28'	24'-28'	24'-28'	16'-18'	
TYPICAL SECTION NO.	8	9	8	9	

NOTES:

PROPOSED DESIGN CRITERIA

PREPARED BY:

TIP: U-4763 B

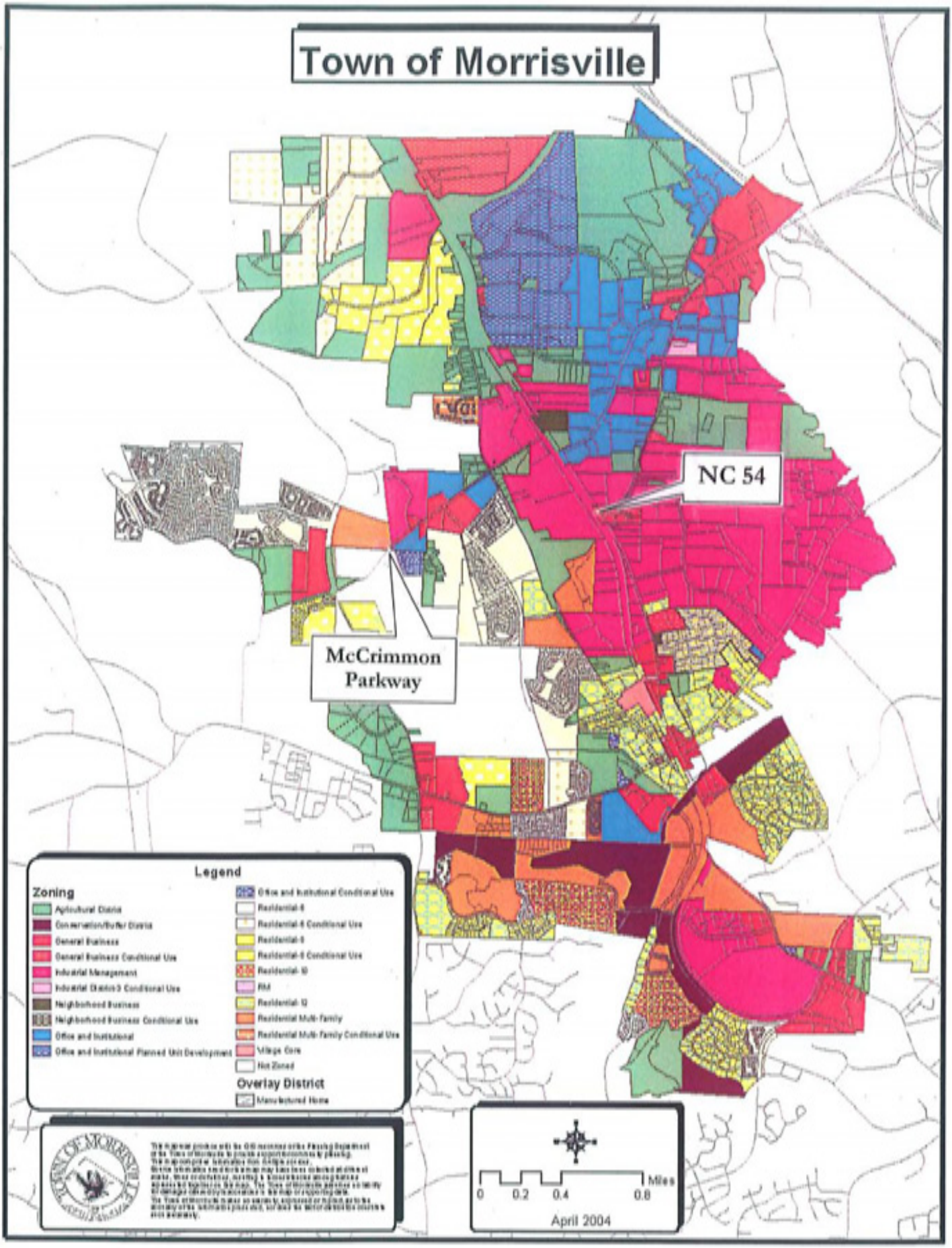
DATE: 06/07/06
Rev 07/18/06

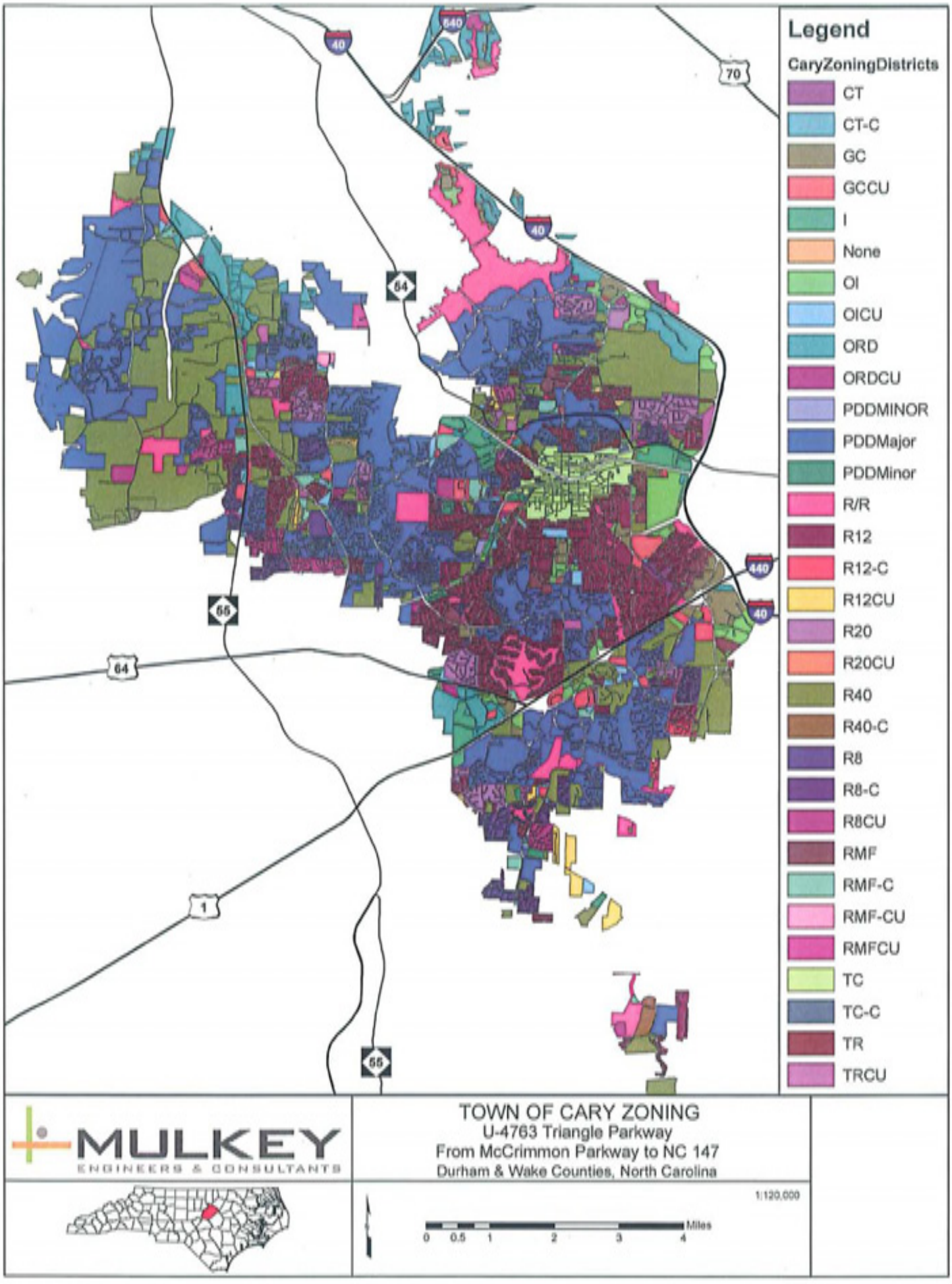
ROUTE	Ramp A @ Hobson	Loop A @ Hobson	Ramp B @ Hobson	Loop B @ Hobson	REFERENCE
LINE	-Y2RPA-	-Y2LPA-	-Y2RPB-	-Y2LPB-	
TRAFFIC DATA					
ADT LET YR = 2010	1900	1600	1900	1600	
ADT DESIGN YR = 2020	1600	2700	1700	3700	
ADT DESIGN YR = 2030	2100	5100	2300	7000	
TTST	3%	3%	3%	3%	
DUALS	6%	6%	6%	6%	
DHV	10%	10%	10%	10%	
DIR	55%	55%	55%	55%	
CLASSIFICATION	Freeway	Freeway	Freeway	Freeway	
TERRAIN TYPE	Rolling	Rolling	Rolling	Rolling	
DESIGN SPEED mph	50 mph	30 mph	50 mph	30 mph	
POSTED SPEED mph	45 mph	25 mph	45 mph	25 mph	
PROP. R/W WIDTH ft	Contain constr.	Contain constr.	Contain constr.	Contain constr.	
CONTROL OF ACCESS	Full Control	Full Control	Full Control	Full Control	
RUMBLE STRIPS (Y/N)	No	No	No	No	
TYPICAL SECTION TYPE	Shoulder	Shoulder (Outside) C&G (Inside)	Shoulder	Shoulder (Outside) C&G (Inside)	
LANE WIDTH ft	16'	16'	16'	16'	
SIDEWALKS (Y/N)	NA	No	NA	No	
BICYCLE LANES (Y/N)	NA	No	NA	No	
MEDIAN WIDTH ft	NA	NA	NA	NA	
MED. PROTECT. (GR/BARRIER)	NA	NA	NA	NA	
SHOULDER WIDTH (total)					
INSIDE	12'	C&G	12'	C&G	
OUTSIDE w/o GR ft	14'	12'	14'	12'	
OUTSIDE w/ GR ft	17'	NA	17'	NA	
PAVED SHOULDER					
OUTSIDE TOTAL/FDPS ft	4'/4' FDPS	4'/4' FDPS	4'/4' FDPS	4'/4' FDPS	
INSIDE TOTAL/FDPS ft	4'/4' FDPS	NA	4'/4' FDPS	NA	
GRADE					
MAX.	5.0%	6.0%	5.0%	6.0%	
MIN.	0.3%	0.3%	0.3%	0.3%	
K VALUE					
SAG	96	37	96	37	
CREST	84	19	84	19	
HORIZ. ALIGN.					
MAX. SUPER.	8%	8%	8%	8%	
MIN. RADIUS ft	760'	230'	760'	230'	
SPIRAL (Y/N)	Yes	Yes	Yes	Yes	
CROSS SLOPES					
PAVEMENT	0.02	0.02	0.02	0.02	
PAVED SHOULDER	0.02	0.02	0.02	0.02	
TURF SHOULDER	0.08	0.08	0.08	0.08	
MEDIAN DITCH	NA	NA	NA	NA	
DITCH TYPICAL (A,B,C)	A	A	A	A	Y1-2A, F-1
CLEAR ZONE ft	24'-28'	16'-18'	24'-28'	16'-18'	
TYPICAL SECTION NO.	8	9	8	9	

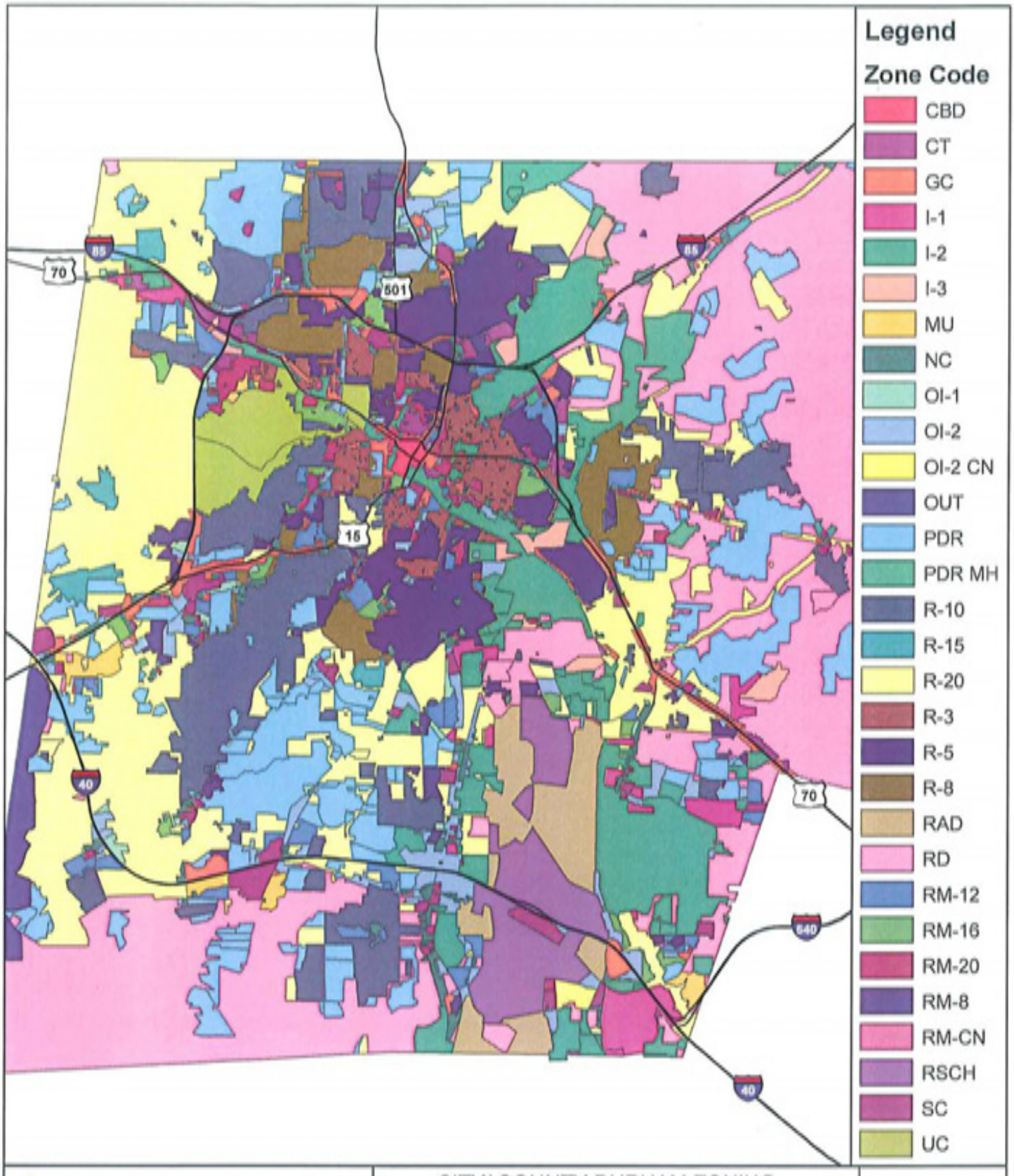
NOTES:

Appendix C
Project Information

Land Use Plans
NRCS Farmland Forms
Relocation Forms
Air Quality Figures
Noise Analysis Figures


Town of Morrisville
NC 54
McCrimmon Parkway
Legend
Zoning
Agricultural District
Conservation/Buffer District
General Business
General Business Conditional Use
Industrial Management
Industrial District3 Conditional Use
Neighborhood Business
Neighborhood Business Conditional Use
Office and Institutional
Office and Institutional Planned Unit Development
Office and Institutional Conditional Use
Residential-6
Residential-6 Conditional Use
Residential-8
Residential-8 Conditional Use
Residential-10
RM
Residential-12
Residential Multi-family
Residential Multi-family Conditional Use
Village Core
Not Zoned
Overlay District
Manufactured Home
0 0.2 0.4 0.8 Miles
April 2004


Legend
CaryZoningDistricts
CT
CT-C
GC
GCCU
I
None
OI
OICU
ORD
ORDCU
PDDMINOR
PDDMajor
PDDMinor
R/R
R12
R12-C
R12CU
R20
R20CU
R40
R40-C
R8
R8-C
R8CU
RMF
RMF-C
RMF-CU
RMFCU
TC
TC-C
TR
TRCU
640
40
70
64
440
1
55
MULKEY
ENGINEERS & CONSULTANTS
TOWN OF CARY ZONING
U-4763 Triangle Parkway
From McCrimmon Parkway to NC 147
Durham & Wake Counties, North Carolina
1:120,000
0 0.5 1 2 3 4
Miles



MULKEY
ENGINEERS & CONSULTANTS

CITY/ COUNTY DURHAM ZONING

U-4763 Triangle Parkway
From McCrimmon Parkway to NC 147
Durham & Wake Counties, North Carolina

1:120,000

0 0.5 1 2 3 4 Miles

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

RECEIVED FEB 16 2007

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name Of Project: Triangle Pkwy -Durham Co part	Federal Agency Involved
Proposed Land Use	County And State
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☑	No ☐	Acres Irrigated: 0	Average Farm Size: 110 acres
Major Crop(s): corn	Farmable Land In Govt. Jurisdiction: Acres: 132267 % 69		Amount Of Farmland As Defined in FPPA: Acres: 118720 % 62	
Name Of Land Evaluation System Used: Durham LE	Name Of Local Site Assessment System: N/A		Date Land Evaluation Returned By NRCS: 2/14/07	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	90.4			
B. Total Acres Statewide And Local Important Farmland	422.2			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.4			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	100.0			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	35	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use		3			
2. Perimeter In Nonurban Use		0			
3. Percent Of Site Being Farmed		9			
4. Protection Provided By State And Local Government		0			
5. Distance From Urban Builtup Area		0			
6. Distance To Urban Support Services		0			
7. Size Of Present Farm Unit Compared To Average		0			
8. Creation Of Nonfarmable Farmland		0			
9. Availability Of Farm Support Services		3			
10. On-Farm Investments		0			
11. Effects Of Conversion On Farm Support Services		0			
12. Compatibility With Existing Agricultural Use		0			
TOTAL SITE ASSESSMENT POINTS	160	0 6	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	35	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0 6	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	35 41	0	0	0

Site Selected: Corridor A	Date Of Selection: February 26, 2007	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

The project has only one build alternative that was developed during completion of the Environmental Assessment document.

(See Instructions on reverse side)

Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name Of Project: Triangle Pkwy - Wake Co part	Federal Agency Involved
Proposed Land Use	County And State
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes	No	Acres Irrigated	Average Farm Size
	☑	☐	0	110 acres

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
corn	Acres: 467992 % 85	Acres: 446451 % 80

Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS
Wake Co LE	N/A	2/14/07

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	10.8			
B. Total Acres Statewide And Local Important Farmland	46.9			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.1			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	84.3			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	44	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use		3			
2. Perimeter In Nonurban Use		0			
3. Percent Of Site Being Farmed		0			
4. Protection Provided By State And Local Government		0			
5. Distance From Urban Builtup Area		0			
6. Distance To Urban Support Services		0			
7. Size Of Present Farm Unit Compared To Average		0			
8. Creation Of Nonfarmable Farmland		0			
9. Availability Of Farm Support Services		3			
10. On-Farm Investments		0			
11. Effects Of Conversion On Farm Support Services		0			
12. Compatibility With Existing Agricultural Use		0			
TOTAL SITE ASSESSMENT POINTS	160	0 6	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	44	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0 6	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	44 50	0	0	0

Site Selected: Corridor A	Date Of Selection: February 26, 2007	Was A Local Site Assessment Used? Yes ☐ No ☑

Reason For Selection:

The project has only one build alternative as developed during Environmental Assessment

(See Instructions on reverse side)

Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X ☐ E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS ELEMENT:	39942	COUNTY	Wake	Alternate Opt. 1 of 2 Alternates
T.I.P. NO.:	U-4763			
DESCRIPTION OF PROJECT:	Triangle Parkway Turnpike Authority			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	1	0	1	0
Businesses	0	1	1	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.	
	X	1.	Will special relocation services be necessary?
	X	2.	Will schools or churches be affected by displacement?
X		3.	Will business services still be available after project?
X		4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5.	Will relocation cause a housing shortage?
		6.	Source for available housing (list).
	X	7.	Will additional housing programs be needed?
X		8.	Should Last Resort Housing be considered?
X		9.	Are there large, disabled, elderly, etc. families?
	X	10.	Will public housing be needed for project?
NA		11.	Is public housing available?
X		12.	Is it felt there will be adequate DSS housing housing available during relocation period?
X		13.	Will there be a problem of housing within financial means?
X		14.	Are suitable business sites available (list source).
		15.	Number months estimated to complete RELOCATION? 6 MO.

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	1	0	0

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	0	$ 0-150	0	0-20M	0	$ 0-150	NA
20-40M	0	150-250	0	20-40M	0	150-250	NA
40-70M	0	250-400	0	40-70M	1	250-400	NA
70-100M	0	400-600	0	70-100M	5	400-600	NA
100 UP	1	600 UP	0	100 UP	200+	600 UP	NA
TOTAL	1		0		206+		NA

REMARKS (Respond by Number)

3. No impact on business community.
4. One office building is currently unoccupied, owned by JDL-RTP, LLC. Approx 22,500 Sq. Ft.
6. Wake-Durham-RTP MLS.
8. This is always a possibility.
9. This is also possible, though unknown at this time.
12. There is much housing available in the area.
13. Possibly, though Last Resort Housing will be offered if so.
14. Many are available in the RTP area, per brokers.

Am Simpson — 1-29-07
Right of Way Agent — Date

Am Simpson — 1-29-07
Relocation Coordinator — Date

FRM15-E

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS ELEMENT:	39942	COUNTY	Wake	Alternate Opt. 2 of 2 Alternates
T.I.P. NO.:	U-4763			
DESCRIPTION OF PROJECT:	Triangle Parkway Turnpike Authority			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	1	0	1	0
Businesses	0	0	0	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	1	0	0

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	0	$ 0-150	0	0-20M	0	$ 0-150	NA
20-40M	0	150-250	0	20-40M	0	150-250	NA
40-70M	0	250-400	0	40-70M	1	250-400	NA
70-100M	0	400-600	0	70-100M	5	400-600	NA
100 UP	1	600 UP	0	100 UP	200+	600 UP	NA
TOTAL	1		0		206+		NA

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.	
	X	1.	Will special relocation services be necessary?
	X	2.	Will schools or churches be affected by displacement?
X		3.	Will business services still be available after project?
	X	4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5.	Will relocation cause a housing shortage?
		6.	Source for available housing (list).
	X	7.	Will additional housing programs be needed?
X		8.	Should Last Resort Housing be considered?
X		9.	Are there large, disabled, elderly, etc. families?
	X	10.	Will public housing be needed for project?
NA		11.	Is public housing available?
X		12.	Is it felt there will be adequate DSS housing housing available during relocation period?
X		13.	Will there be a problem of housing within financial means?
NA		14.	Are suitable business sites available (list source).
		15.	Number months estimated to complete RELOCATION? 6 MO.

REMARKS (Respond by Number)

3. No impact on business community.

6. Wake-Durham-RTP MLS.
8. This is always a possibility.
9. This is also possible, though unknown at this time.
12. There is much housing available in the area.
13. Possibly, though Last Resort Housing will be offered if so.

Am Simpson — 1-29-07
Right of Way Agent — Date

Am Simpson — 1-29-07
Relocation Coordinator — Date

FRM15-E

EIS RELOCATION REPORT

North Carolina Turnpike Authority
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S. ☐ CORRIDOR ☒ DESIGN

WBS:	N/A	COUNTY	Wake	Alternate	N/A	of	N/A	Alternate	
I.D. NO.:	U-4763B	F.A. PROJECT	N/A						
DESCRIPTION OF PROJECT:	Kit Creek Road Connector – Triangle Parkway Corridor A – Design Option 2								

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	1	N/A	1	1
Businesses	N/A	N/A	N/A	N/A
Farms	N/A	N/A	N/A	N/A
Non-Profit	N/A	N/A	N/A	N/A

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	0	0	0	1

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	0	$ 0-150	N/A	0-20M	0	$ 0-150	N/A
20-40M	0	150-250	N/A	20-40M	0	150-250	N/A
40-70M	0	250-400	N/A	40-70M	0	250-400	N/A
70-100M	0	400-600	N/A	70-100M	0	400-600	N/A
100 UP	1	600 UP	N/A	100 UP	39	600 UP	N/A
TOTAL	1		N/A		39		N/A

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.	
	X	1.	Will special relocation services be necessary?
	X	2.	Will schools or churches be affected by displacement?
X		3.	Will business services still be available after project?
	X	4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5.	Will relocation cause a housing shortage?
		6.	Source for available housing (list).
	X	7.	Will additional housing programs be needed?
X		8.	Should Last Resort Housing be considered?
	X	9.	Are there large, disabled, elderly, etc. families?
	X	10.	Will public housing be needed for project?
X		11.	Is public housing available?
X		12.	Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13.	Will there be a problem of housing within financial means?
X		14.	Are suitable business sites available (list source).
		15.	Number months estimated to complete RELOCATION? 6

REMARKS (Respond by Number)

3) No businesses are impacted by the proposed design.

8) Last Resort Housing should be considered as this market area is rapidly growing. Last Resort Housing will be applied as necessary and according to the guidelines established by the Uniform Relocation Act.

11) Public housing is available but its need is not anticipated

12) There will be adequate DSS housing available during the relocation period. Sources include local papers, visual survey, and Multiple Listing Service.

14) Suitable business sites are available. Visual survey of the project area and MLS confirm this. There are no businesses affected by this design option, however, so no business replacement sites will be needed.

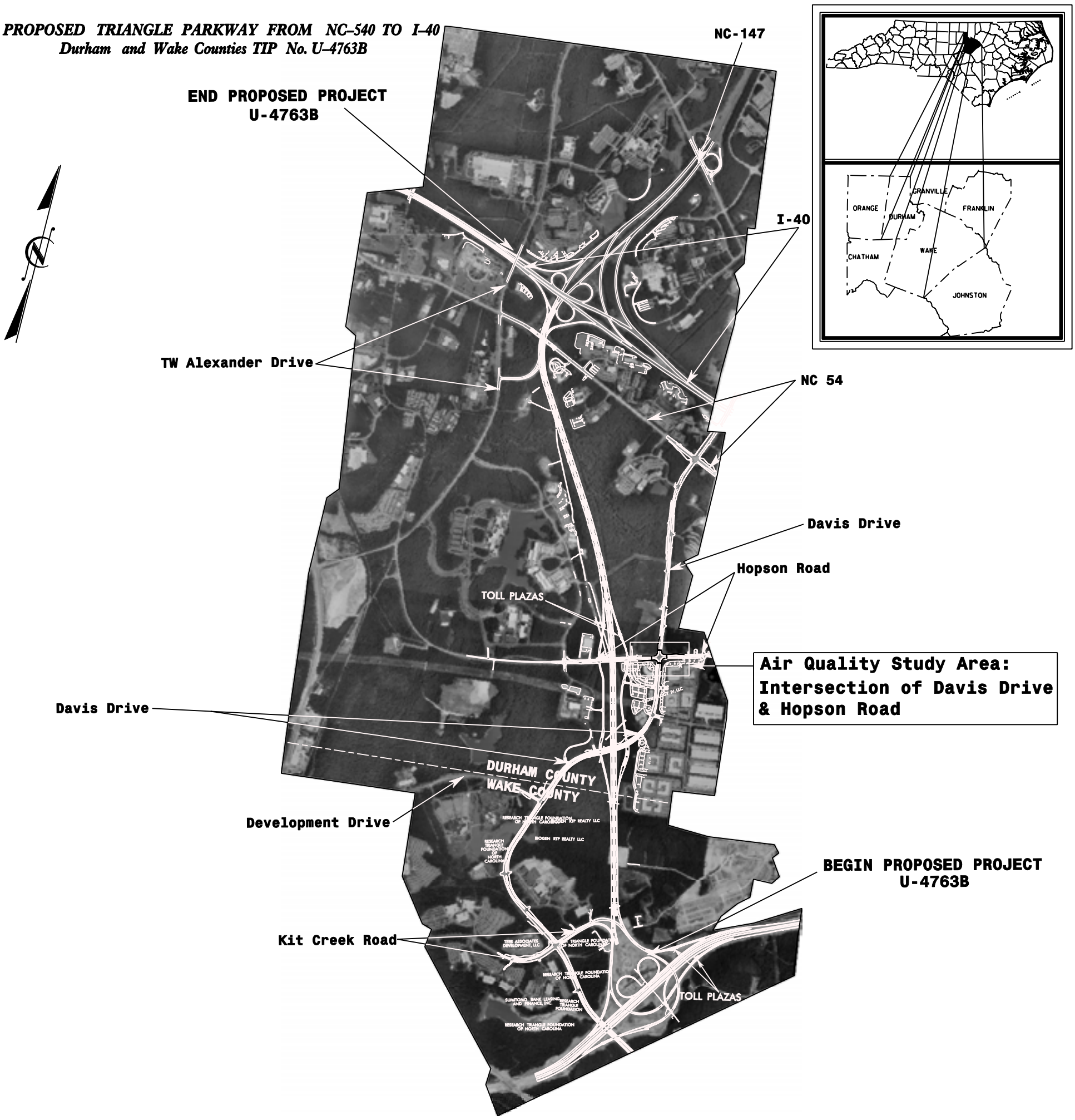
15) It is estimated that 6 months will be needed to complete the relocation in a humane and efficient manner.

[signature]	4/17/07	[signature]	4/17/07
Right of Way Agent	Date	Relocation Coordinator	Date

FRM15-E Revised 09-02

Original & 1 Copy: Relocation Coordinator
2 Copy Division Relocation File

PROPOSED TRIANGLE PARKWAY FROM NC-540 TO I-40
Durham and Wake Counties TIP No. U-4763B



NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

Project Location

PROPOSED TRIANGLE PARKWAY FROM NC–540 TO I–40
Durham and Wake Counties TIP No. U–4763B

Location of Receptors

Receptor 19
Receptor 20
Receptor 21
Receptor 22
Receptor 23
Receptor 24
Receptor 25
Receptor 26
Receptor 27
Receptor 28
Receptor 29
Receptor 30
Receptor 31
Receptor 32
Receptor 33
Receptor 34
Receptor 18
Receptor 17
Receptor 16
Receptor 15
Receptor 14
Receptor 13
Receptor 12
Receptor 11
Receptor 10
Receptor 9
Receptor 8
Receptor 7
Receptor 6
Receptor 5
Receptor 4
Receptor 3
Receptor 2
Receptor 1

Davis Dr.
Hopson Rd
Hopson Rd
Davis Dr.
Keystone Office

● Receptor
NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

Location of Receptors

Traffic Noise Exposures

TRIANGLE PARKWAY, FROM NC 540 TO I-40
WAKE AND DURHAM COUNTIES
TIP#U-4763B

Receiver ID#	Noise Wall Analysis Area	Land Use	Activity Category	# of Units	2006 Ambient Leq Noise Level (dBA) (Exterior)	2006 Ambient Leq Noise Level (dBA) (Interior)[2]	Predicted 2030 Leq Noise Level (Exterior)	Predicted 2030 Leq Noise Level (Interior)[3]	Increase over Existing (dBA) (2030) (Interior)	Increase over Existing (dBA) (2030) (Exterior)	Impacted (2030)
1	A	Commercial	E	1	45	38	69	44	6	24	
2	A	Commercial	E	1	45	38	69	44	6	24	
3	A	Commercial	E	2	47	38	65	40	2	18	
4	A	Commercial	E	2	48	38	65	40	2	17	
5	A	Commercial	E	2	53	38	64	39	1	11	
6	A	Commercial	E	2	55	38	59	38	0	4	
7	A	Commercial	E	2	60	38	62	38	0	2	
8	A	Commercial	E	2	60	38	61	38	0	1	
9	B	Commercial	E	1	62	38	66	41	3	4	
10	B	Commercial	E	1	67	38	68	43	5	1	
11	B	Commercial	E	1	60	38	66	41	3	6	
12	B	Commercial	E	4	48	38	58	38	0	10	
13	B	Commercial	E	1	47	38	66	41	3	19	
14	B	Commercial	E	2	50	38	68	43	5	18	
15	B	Commercial	E	1	50	38	73	48	10	23	
16	C	Commercial	E	1	62	38	65	40	2	3	
17	C	Commercial	E	4	60	38	63	38	0	3	
18	C	Daycare Facility	B	4	64	38	67	42	5	3	X
19	D	Commercial	E	1	57	38	61	38	0	4	
20	E	Commercial	E	2	57	38	60	38	0	3	
21	D	Commercial	E	1	60	38	64	38	0	4	
22	D	Commercial	E	1	66	38	69	44	6	3	
23	D	Commercial	E	1	68	38	71	46	8	3	
24	D	Commercial	E	1	67	38	70	45	7	3	
25	E	Commercial	E	1	59	38	65	40	2	6	
26	E	Commercial	E	1	43	38	66	41	3	23	
27	E	Commercial	E	1	42	38	68	43	5	26	
28	E	Commercial	E	5	41	38	53	38	0	12	
29	E	Daycare Facility	B	10	43	38	68	43	5	25	X
30	E	Commercial	E	5	42	38	56	38	0	14	
31	E	Commercial	E	3	44	38	53	38	0	9	
32	F	Commercial	E	1	48	38	59	38	0	11	
33	G	Commercial	E	1	52	38	59	38	0	7	
36	B	Commercial	E	5	52	38	66	41	3	14	
37	B	Commercial	E	5	54	38	66	41	3	12	
Davis Park 1	B	Residential	B/E	1	51	38	64	39	1	13	
Davis Park 2	B	Residential	B/E	1	51	38	63	38	0	12	
Davis Park 3	B	Residential	B/E	1	51	38	63	38	0	12	
Davis Park 4	B	Residential	B/E	1	52	38	63	38	0	11	
Davis Park 5	B	Residential	B/E	1	52	38	63	38	0	11	
Davis Park 6	B	Residential	B/E	1	52	38	63	38	0	10	
Davis Park 7	B	Residential	B/E	1	53	38	63	38	0	10	
Davis Park 8	B	Residential	B/E	1	53	38	62	38	0	9	
Davis Park 9	B	Residential	B/E	1	54	38	62	38	0	9	
Davis Park 10	B	Residential	B/E	1	54	38	62	38	0	8	
Davis Park 11	B	Residential	B/E	1	54	38	62	38	0	8	
Davis Park 12	B	Residential	B/E	1	55	38	63	38	0	8	
Davis Park 13	B	Residential	B/E	1	55	38	63	38	0	8	
Davis Park 14	B	Residential	B/E	1	56	38	63	38	0	7	
Davis Park 20	B	Residential	B/E	1	58	38	64	39	1	5	
Davis Park 19	B	Residential	B/E	1	58	38	64	39	1	6	
Davis Park 18	B	Residential	B/E	1	57	38	64	39	1	6	
Davis Park 17	B	Residential	B/E	1	57	38	63	38	0	7	
Davis Park 16	B	Residential	B/E	1	56	38	63	38	0	7	
Davis Park 15	B	Residential	B/E	1	56	38	63	38	0	7	
Davis Park 21	B	Residential	B/E	1	60	38	65	40	2	4	
Davis Park 22	B	Residential	B/E	1	61	38	65	40	2	4	
Davis Park 23	B	Residential	B/E	1	62	38	65	40	2	4	
Davis Park 24	B	Residential	B/E	1	63	38	66	41	3	3	
Davis Park 25	B	Residential	B/E	1	64	38	68	43	5	3	X
Davis Park 26	B	Residential	B/E	1	65	38	69	44	6	4	X
Davis Park 27	B	Residential	B/E	1	67	38	70	45	7	4	X
Davis Park 28	B	Residential	B/E	1	69	38	72	47	9	4	X
Davis Park 55	B	Residential	B/E	1	67	38	71	46	8	4	X
Davis Park 54	B	Residential	B/E	1	66	38	69	44	6	3	X
Davis Park 53	B	Residential	B/E	1	65	38	68	43	5	3	X
Davis Park 52	B	Residential	B/E	1	64	38	67	42	4	3	X
Davis Park 51	B	Residential	B/E	1	62	38	66	41	3	3	
Davis Park 50	B	Residential	B/E	1	62	38	65	40	2	4	
Davis Park 49	B	Residential	B/E	1	61	38	65	40	2	4	
Davis Park 48	B	Residential	B/E	1	60	38	64	39	1	5	
Davis Park 47	B	Residential	B/E	1	58	38	64	39	1	6	
Davis Park 46	B	Residential	B/E	1	57	38	64	39	1	7	
Davis Park 45	B	Residential	B/E	1	57	38	64	39	1	7	
Davis Park 42	B	Residential	B/E	1	56	38	63	38	0	7	
Davis Park 44	B	Residential	B/E	1	57	38	64	39	1	7	
Davis Park 43	B	Residential	B/E	1	57	38	64	39	1	7	

Traffic Noise Exposures

TRIANGLE PARKWAY, FROM NC 540 TO I-40
WAKE AND DURHAM COUNTIES
TIP#U-4763B

Receiver ID#	Noise Wall Analysis Area	Land Use	Activity Category	# of Units	2006 Ambient Leq Noise Level (dBA) (Exterior)	2006 Ambient Leq Noise Level (dBA) (Interior)[2]	Predicted 2030 Leq Noise Level (Exterior)	Predicted 2030 Leq Noise Level (Interior)[3]	Increase over Existing (dBA) (2030) (Interior)	Increase over Existing (dBA) (2030) (Exterior)	Impacted (2030)
Davis Park 46	B	Residential	B/E	1	57	38	64	39	1	6	
Davis Park 29	B	Residential	B/E	1	50	38	64	39	1	14	
Davis Park 30	B	Residential	B/E	1	50	38	64	39	1	14	
Davis Park 31	B	Residential	B/E	1	51	38	64	39	1	13	
Davis Park 32	B	Residential	B/E	1	51	38	64	39	1	13	
Davis Park 33A	B	Residential	B/E	1	51	38	64	39	1	13	
Davis Park 35	B	Residential	B/E	1	51	38	64	39	1	13	
Davis Park 34	B	Residential	B/E	1	51	38	64	39	1	13	
Davis Park 33	B	Residential	B/E	1	50	38	64	39	1	14	
Davis Park 36	B	Residential	B/E	1	52	38	63	38	0	12	
Davis Park 37	B	Residential	B/E	1	52	38	63	38	0	12	
Davis Park 38	B	Residential	B/E	1	52	38	63	38	0	12	
Davis Park 39	B	Residential	B/E	1	52	38	63	38	0	12	
Davis Park 40	B	Residential	B/E	1	52	38	63	38	0	12	
Davis Park 41	B	Residential	B/E	1	52	38	64	39	1	12	
Davis Park 56	B	Park	B	1	52	N/A	64	N/A	N/A	12	
Davis Park 57	B	Residential	B/E	48	53	38	63	38	0	10	
Davis Park 77	B	Residential	B/E	3	51	38	65	40	2	13	
Davis Park 76	B	Residential	B/E	3	51	38	65	40	2	14	X
Davis Park 75	B	Residential	B/E	3	50	38	65	40	2	15	X
Davis Park 74	B	Residential	B/E	3	50	38	66	41	3	16	X
Davis Park 78	B	Residential	B/E	3	50	38	66	41	3	16	X
Davis Park 79	B	Residential	B/E	3	50	38	66	41	3	15	X
Davis Park 80	B	Residential	B/E	3	51	38	65	40	2	14	X
Davis Park 81	B	Residential	B/E	3	51	38	65	40	2	14	X
Davis Park 82	B	Residential	B/E	3	52	38	64	39	1	12	
Davis Park 83	B	Residential	B/E	3	54	38	64	39	1	10	
Davis Park 85	B	Residential	B/E	3	54	38	64	39	1	10	
Davis Park 87	B	Residential	B/E	3	54	38	64	39	1	10	
Davis Park 89	B	Residential	B/E	3	54	38	64	39	1	10	
Davis Park 88	B	Residential	B/E	3	52	38	65	40	2	12	
Davis Park 86	B	Residential	B/E	3	52	38	64	39	1	12	
Davis Park 84	B	Residential	B/E	3	52	38	64	39	1	12	
Davis Park 64	B	Residential	B/E	3	56	38	63	38	0	8	
Davis Park 65	B	Residential	B/E	3	57	38	64	39	1	7	
Davis Park 63	B	Residential	B/E	3	57	38	64	39	1	7	
Davis Park 62	B	Residential	B/E	3	55	38	63	38	0	8	
Davis Park 90	B	Residential	B/E	3	56	38	64	39	1	8	
Davis Park 91	B	Residential	B/E	3	57	38	64	39	1	7	
Davis Park 92	B	Residential	B/E	3	58	38	64	39	1	6	
Davis Park 93	B	Residential	B/E	3	60	38	64	39	1	5	
Davis Park 97	B	Residential	B/E	3	60	38	64	39	1	5	
Davis Park 96	B	Residential	B/E	3	58	38	64	39	1	6	
Davis Park 95	B	Residential	B/E	3	57	38	64	39	1	7	
Davis Park 94	B	Residential	B/E	3	56	38	64	39	1	8	
Davis Park 72	B	Residential	B/E	3	64	38	66	41	3	2	
Davis Park 70	B	Residential	B/E	3	64	38	66	41	3	2	
Davis Park 68	B	Residential	B/E	3	63	38	66	41	3	2	
Davis Park 66	B	Residential	B/E	3	63	38	66	41	3	3	
Davis Park 67	B	Residential	B/E	3	67	38	69	44	6	2	X
Davis Park 69	B	Residential	B/E	3	67	38	69	44	6	2	X
Davis Park 71	B	Residential	B/E	3	67	38	69	44	6	2	X
Davis Park 73	B	Residential	B/E	3	67	38	69	44	6	2	X
Davis Park 61	B	Residential	B/E	3	57	38	64	39	1	7	
Davis Park 60	B	Residential	B/E	3	55	38	63	38	0	8	
Davis Park 58	B	Residential	B/E	3	55	38	63	38	0	8	
Davis Park 59	B	Residential	B/E	3	57	38	64	39	1	7	
									Total Impacted:		21

1) In determining and abating traffic noise impacts, primary consideration is to be given to exterior areas where frequent human use occurs. In those situations where there are no exterior activities to be affected by the traffic noise, the interior criterion shall be used as the basis of determining noise impacts. Therefore, NAC Activity Category E was applied to all commercial buildings along the corridor. (Highway Traffic Noise Analysis and Abatement Policy and Guidance, US DOT, FHWA, June 1995.)

2) Typical noise levels in an office range from a background level of 38 dBA in large conference room to 55 to 67 dBA Leq depending on level of activity within the office. Lowest noise level was used to establish the estimated existing interior Leq noise level. (Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Table 2 and Figure B-4, US EPA, March 1974. Caltrans Transportation Laboratory Noise Manual, 1982)

3) Structural insertion loss of commercial and residential buildings with fixed thermo-pane, storm windows, or double glazing ranges from 25 to 35 dB. The lower value, 25 dB, was subtracted from the exterior peak hour noise levels developed with TNM to establish the peak hour interior Leq noise levels presented in this table. If the future 2030 interior Leq was less than existing, the existing noise level was also used for 2030. (Highway Traffic Noise Analysis and Abatement Policy and Guidance, Table 7, US DOT, FHWA, June 1995.)

NC 540 Traffic Noise Exposures
TRIANGLE PARKWAY, FROM NC-540 TO I-40
WAKE AND DURHAM COUNTIES
TIP#U-4763B

Receiver ID#	Noise Analysis Area	Land Use	Activity Category	# of Units	2006 Ambient Leq Noise Level (dBA) (Exterior)	2006 Ambient Leq Noise Level (dBA) (Interior)[2]	Predicted 2030 Leq Noise Level (Exterior)	Predicted 2030 Leq Noise Level (Interior)[3]	Increase over Existing (dBA) (2030) (Interior)	Increase over Existing (dBA) (2030) (Exterior)	Impacted (2030)
1	I	Residential	B	1	61	N/A	68	N/A	N/A	7	X
2	I	Residential	B	1	60	N/A	67	N/A	N/A	7	X
3	I	Residential	B	1	60	N/A	67	N/A	N/A	7	X
4	I	Residential	B	1	59	N/A	66	N/A	N/A	7	X
5	I	Residential	B	1	59	N/A	65	N/A	N/A	6	
6	I	Residential	B	1	58	N/A	65	N/A	N/A	7	
7	I	Residential	B	1	57	N/A	64	N/A	N/A	7	
8	I	Residential	B	1	56	N/A	63	N/A	N/A	7	
9	I	Residential	B	1	56	N/A	63	N/A	N/A	7	
10	I	Residential	B	1	55	N/A	62	N/A	N/A	7	
11	I	Residential	B	1	55	N/A	61	N/A	N/A	6	
12	I	Residential	B	1	54	N/A	61	N/A	N/A	7	
13	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
14	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
15	I	Residential	B	1	53	N/A	59	N/A	N/A	6	
16	I	Residential	B	1	52	N/A	59	N/A	N/A	7	
17	I	Residential	B	1	52	N/A	59	N/A	N/A	7	
18	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
19	I	Residential	B	1	51	N/A	58	N/A	N/A	7	
20	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
21	I	Residential	B	1	51	N/A	56	N/A	N/A	5	
22	I	Residential	B	1	50	N/A	56	N/A	N/A	6	
23	I	Residential	B	1	50	N/A	56	N/A	N/A	6	
24	I	Residential	B	1	50	N/A	55	N/A	N/A	5	
25	I	Residential	B	1	50	N/A	55	N/A	N/A	5	
26	I	Residential	B	1	49	N/A	55	N/A	N/A	6	
27	I	Residential	B	1	50	N/A	55	N/A	N/A	5	
28	I	Residential	B	1	51	N/A	56	N/A	N/A	5	
29	I	Residential	B	1	52	N/A	56	N/A	N/A	4	
30	I	Residential	B	1	52	N/A	57	N/A	N/A	5	
31	I	Residential	B	1	53	N/A	57	N/A	N/A	4	
32	I	Residential	B	1	53	N/A	57	N/A	N/A	4	
33	I	Residential	B	1	53	N/A	57	N/A	N/A	4	
34	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
35	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
36	I	Residential	B	1	52	N/A	56	N/A	N/A	4	
37	I	Residential	B	1	52	N/A	56	N/A	N/A	4	
38	I	Residential	B	1	52	N/A	56	N/A	N/A	4	
39	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
40	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
41	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
42	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
43	I	Residential	B	1	53	N/A	57	N/A	N/A	4	
44	I	Residential	B	1	54	N/A	57	N/A	N/A	3	
45	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
46	I	Residential	B	1	54	N/A	57	N/A	N/A	3	
47	I	Residential	B	1	53	N/A	57	N/A	N/A	4	
48	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
49	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
50	I	Residential	B	1	53	N/A	57	N/A	N/A	4	
51	I	Residential	B	1	54	N/A	57	N/A	N/A	3	
52	I	Residential	B	1	54	N/A	58	N/A	N/A	4	
53	I	Residential	B	1	55	N/A	58	N/A	N/A	3	
54	I	Residential	B	1	54	N/A	58	N/A	N/A	4	
55	I	Residential	B	1	54	N/A	57	N/A	N/A	3	
56	I	Residential	B	1	54	N/A	57	N/A	N/A	3	
57	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
58	I	Residential	B	1	53	N/A	56	N/A	N/A	3	
59	I	Residential	B	1	52	N/A	56	N/A	N/A	4	
60	I	Residential	B	1	52	N/A	55	N/A	N/A	3	
61	I	Residential	B	1	52	N/A	55	N/A	N/A	3	
62	I	Residential	B	1	51	N/A	54	N/A	N/A	3	
63	I	Residential	B	1	51	N/A	54	N/A	N/A	3	
64	I	Residential	B	1	51	N/A	54	N/A	N/A	3	
65	I	Residential	B	1	50	N/A	54	N/A	N/A	4	
68	I	Residential	B	1	55	N/A	61	N/A	N/A	6	
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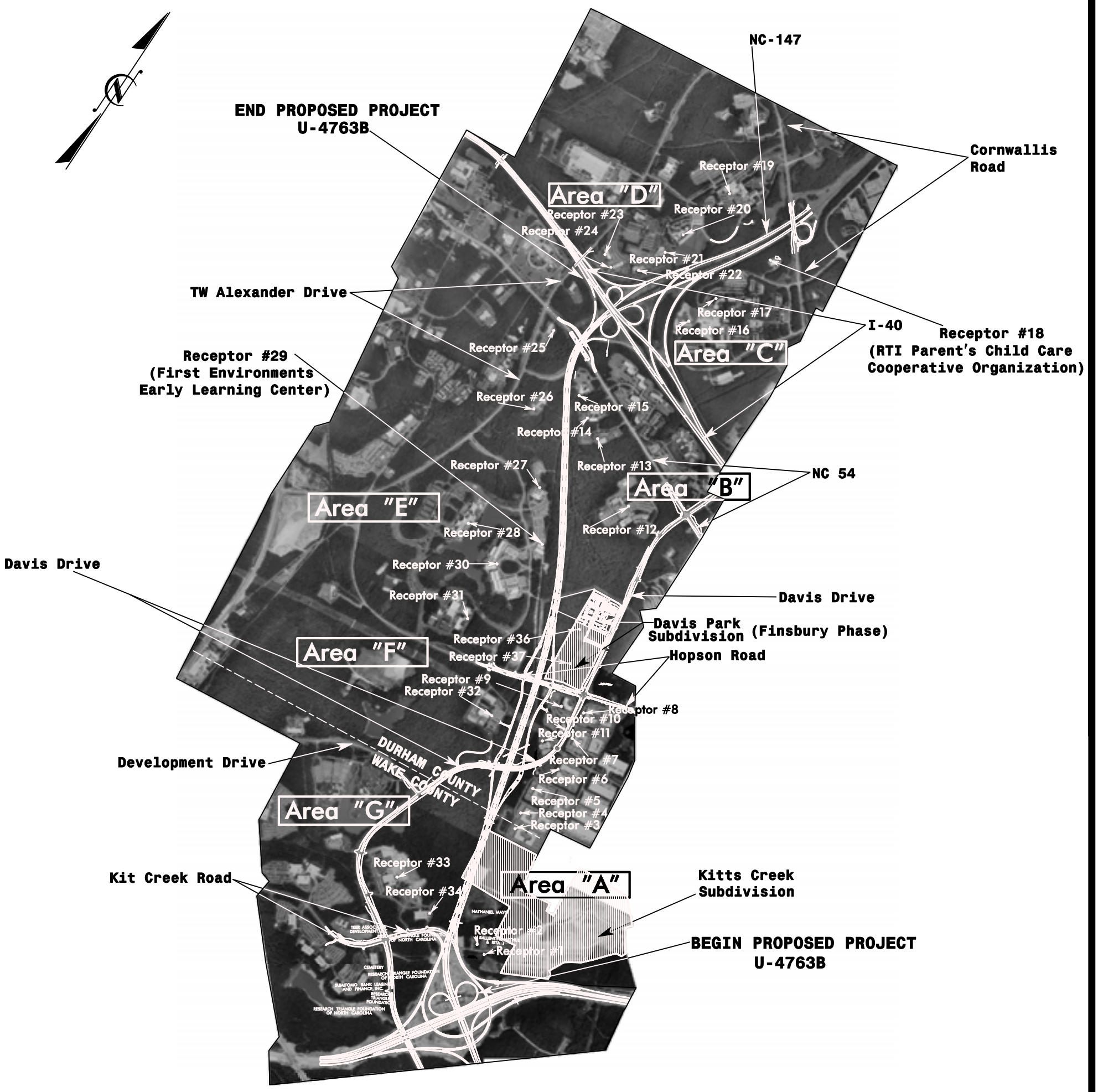
71	I	Residential	B	1	54	N/A	60	N/A	N/A	6	
72	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
73	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
74	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
75	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
76	I	Residential	B	1	51	N/A	58	N/A	N/A	7	
77	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
78	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
79	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
80	I	Residential	B	1	51	N/A	56	N/A	N/A	5	
81	H	Commercial	E	1	57	38	59	38	0	2	
82	K	Residential	B	1	58	N/A	66	N/A	N/A	8	X
83	K	Residential	B	1	51	N/A	63	N/A	N/A	12	
85	J	Residential	B	1	56	N/A	63	N/A	N/A	7	
86	I	Residential	B	1	50	N/A	56	N/A	N/A	6	
87	I	Residential	B	1	50	N/A	56	N/A	N/A	6	
88	I	Residential	B	1	49	N/A	55	N/A	N/A	6	
89	I	Residential	B	1	49	N/A	55	N/A	N/A	6	
90	I	Residential	B	1	49	N/A	55	N/A	N/A	6	
91	I	Residential	B	1	48	N/A	54	N/A	N/A	6	
92	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
93	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
94	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
95	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
96	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
97	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
98	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
99	I	Residential	B	1	51	N/A	57	N/A	N/A	6	
100	I	Residential	B	1	50	N/A	56	N/A	N/A	6	
101	I	Residential	B	1	50	N/A	57	N/A	N/A	7	
102	I	Residential	B	1	50	N/A	57	N/A	N/A	7	
103	I	Residential	B	1	50	N/A	57	N/A	N/A	7	
104	I	Residential	B	1	50	N/A	57	N/A	N/A	7	
105	I	Residential	B	1	51	N/A	58	N/A	N/A	7	
106	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
107	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
108	I	Residential	B	1	52	N/A	59	N/A	N/A	7	
109	I	Residential	B	1	53	N/A	59	N/A	N/A	6	
110	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
111	I	Residential	B	1	54	N/A	60	N/A	N/A	6	
112	I	Residential	B	1	54	N/A	60	N/A	N/A	6	
113	I	Residential	B	1	54	N/A	60	N/A	N/A	6	
114	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
115	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
116	I	Residential	B	1	53	N/A	60	N/A	N/A	7	
117	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
118	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
119	I	Residential	B	1	52	N/A	58	N/A	N/A	6	
120	I	Residential	B	1	52	N/A	59	N/A	N/A	7	
121	J	Residential	B	1	66	N/A	69	N/A	N/A	3	X
122	J	Residential	B	1	61	N/A	64	N/A	N/A	3	
123	K	Residential	B	1	53	N/A	62	N/A	N/A	9	
124	K	Residential	B	1	55	N/A	60	N/A	N/A	5	
125	K	Residential	B	1	66	N/A	67	N/A	N/A	1	X
126	L	Commercial	E	1	54	38	59	38	0	5	
127	L	Commercial	E	1	53	38	58	38	0	5	
									Total Impacted:		7

1) In determining and abating traffic noise impacts, primary consideration is to be given to exterior areas where frequent human use occurs. In those situations where there are no exterior activities to be affected by the traffic noise, the interior criterion shall be used as the basis of determining noise impacts. Therefore, NAC Activity Category E was applied to all commercial buildings along the corridor. (Highway Traffic Noise Analysis and Abatement Policy and Guidance, US DOT, FHWA, June 1995.)
2) Typical noise levels in an office range from a background level of 38 dBA in large conference room to 55 to 67 dBA Leq depending on level of activity within the office. Lowest noise level was used to establish the estimated existing interior Leq noise level. (Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Table 2 and Figure B-4, US EPA, March 1974. Caltrans Transportation Laboratory Noise Manual, 1982)
3) Structural insertion loss of commercial and residential buildings with fixed thermo-pane, storm windows, or double glazing ranges from 25 to 35 dB. The lower value, 25 dB, was subtracted from the exterior peak hour noise levels developed with TNM to establish the peak hour interior Leq noise levels presented in this table. If the future 2030 interior Leq was less than existing, the existing noise level was also used for 2030. (Highway Traffic N



Barrier Study Areas

PROPOSED TRIANGLE PARKWAY FROM NC–540 TO I–40

Durham and Wake Counties TIP No. U–4763B

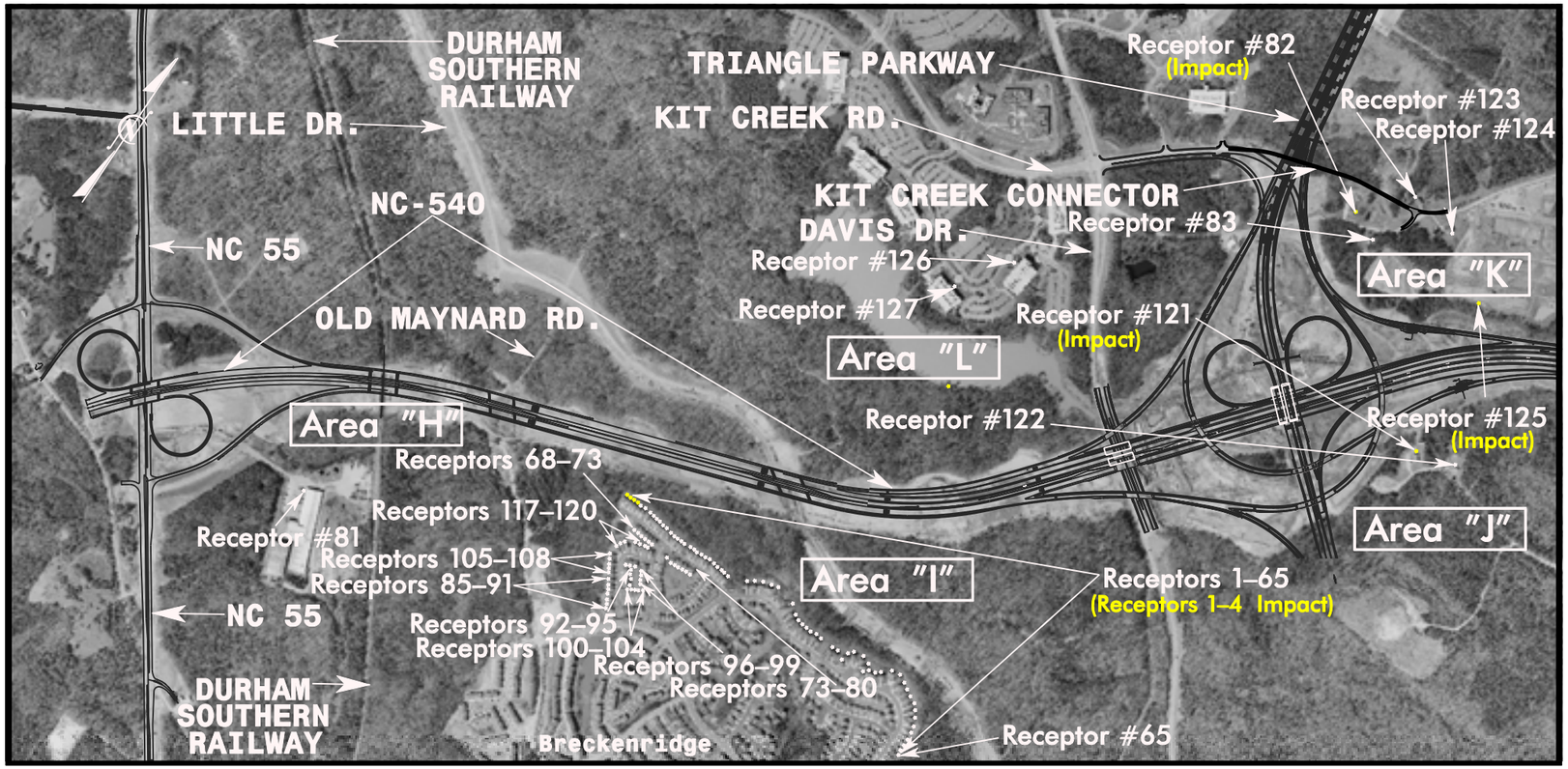
GRAPHIC SCALE

2000 1000 0 2000 4000

NORTH CAROLINA Turnpike Authority

Prepared For:

North Carolina Turnpike Authority

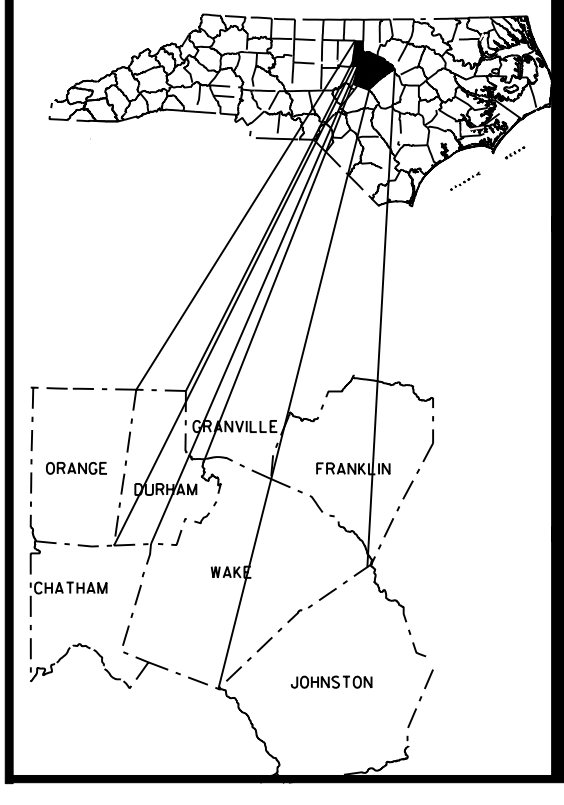


* : IMPACTED RECEPTOR

NOISE ANALYSIS AREAS
EXTENDED STUDY AREA
Triangle Parkway from NC–540 to I–40
Durham and Wake Counties TIP No. U–4763B

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority



NORTH CAROLINA Turnpike Authority

GRAPHIC SCALE

2000 1000 0 2000 4000

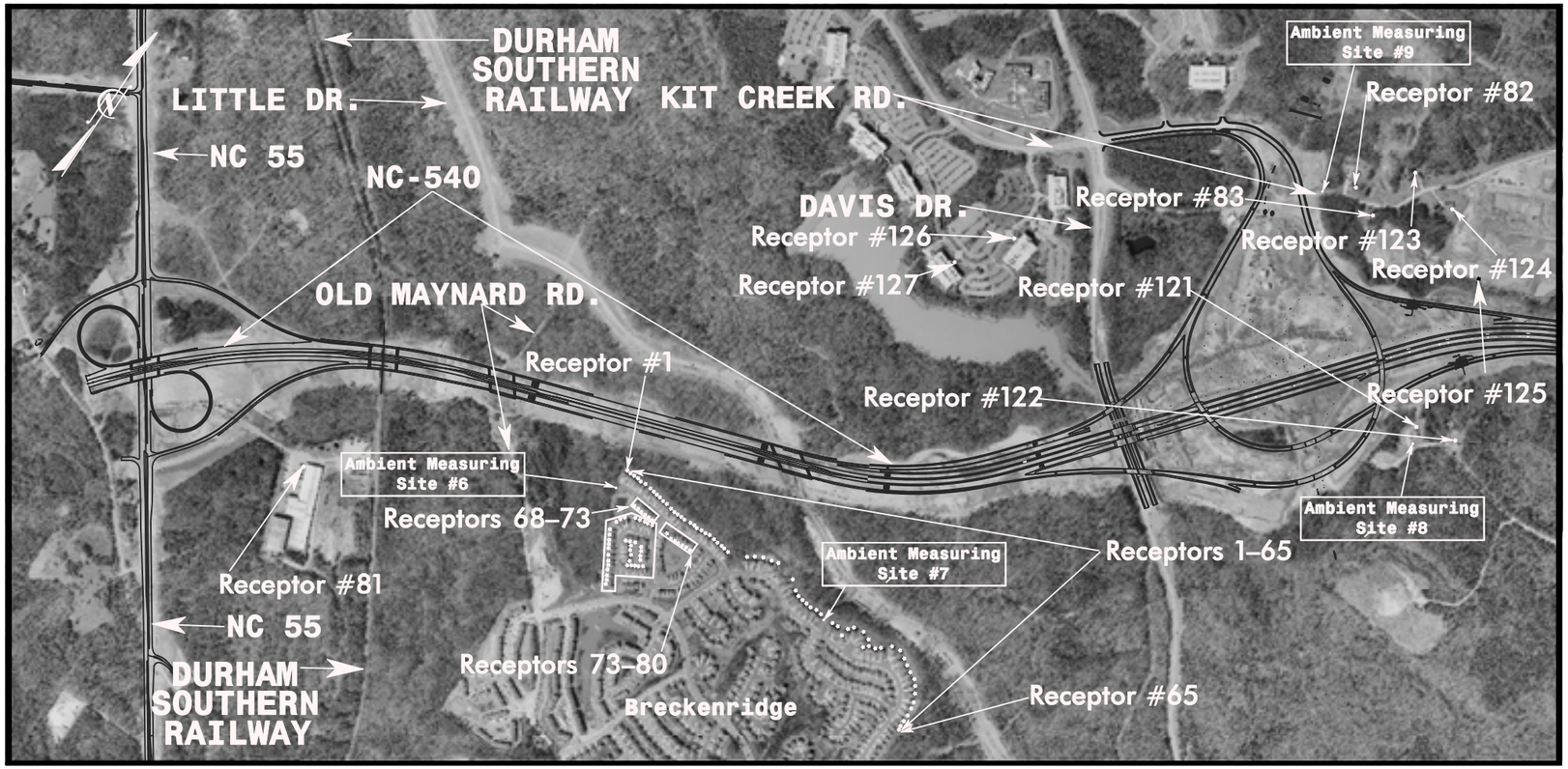
Prepared For:

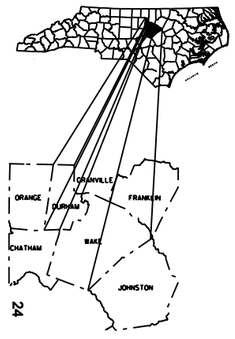
North Carolina Turnpike Authority

Project Location & Ambient Measurement Sites

PROPOSED TRIANGLE PARKWAY FROM NC–540 TO I–40

Durham and Wake Counties TIP No. U–4763B

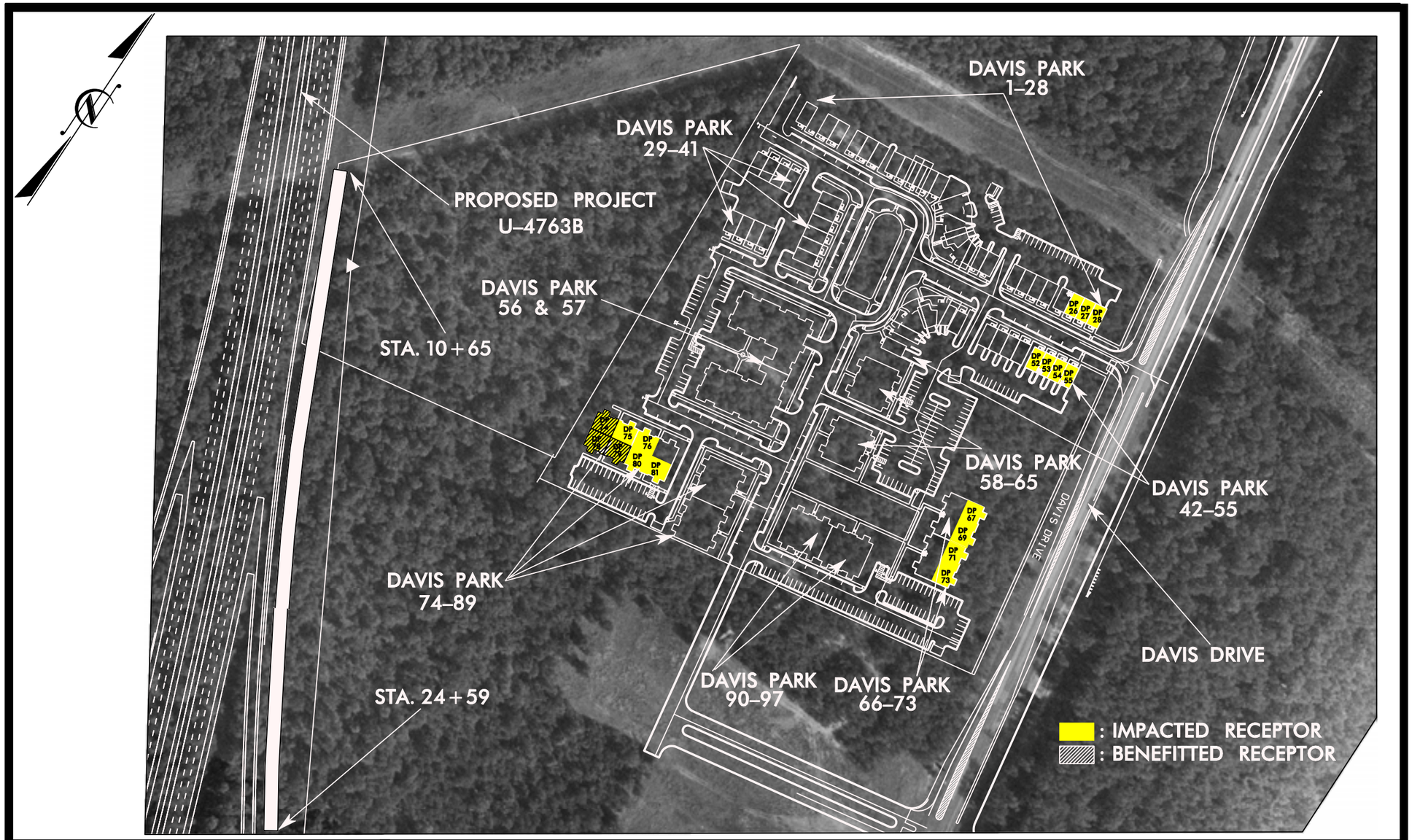




EXTENDED STUDY AREA
Project Location & Ambient Measuring Sites
PROPOSED TRIANGLE PARKWAY FROM NC–540 TO I–40
Durham and Wake Counties TIP No. U–4763B

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

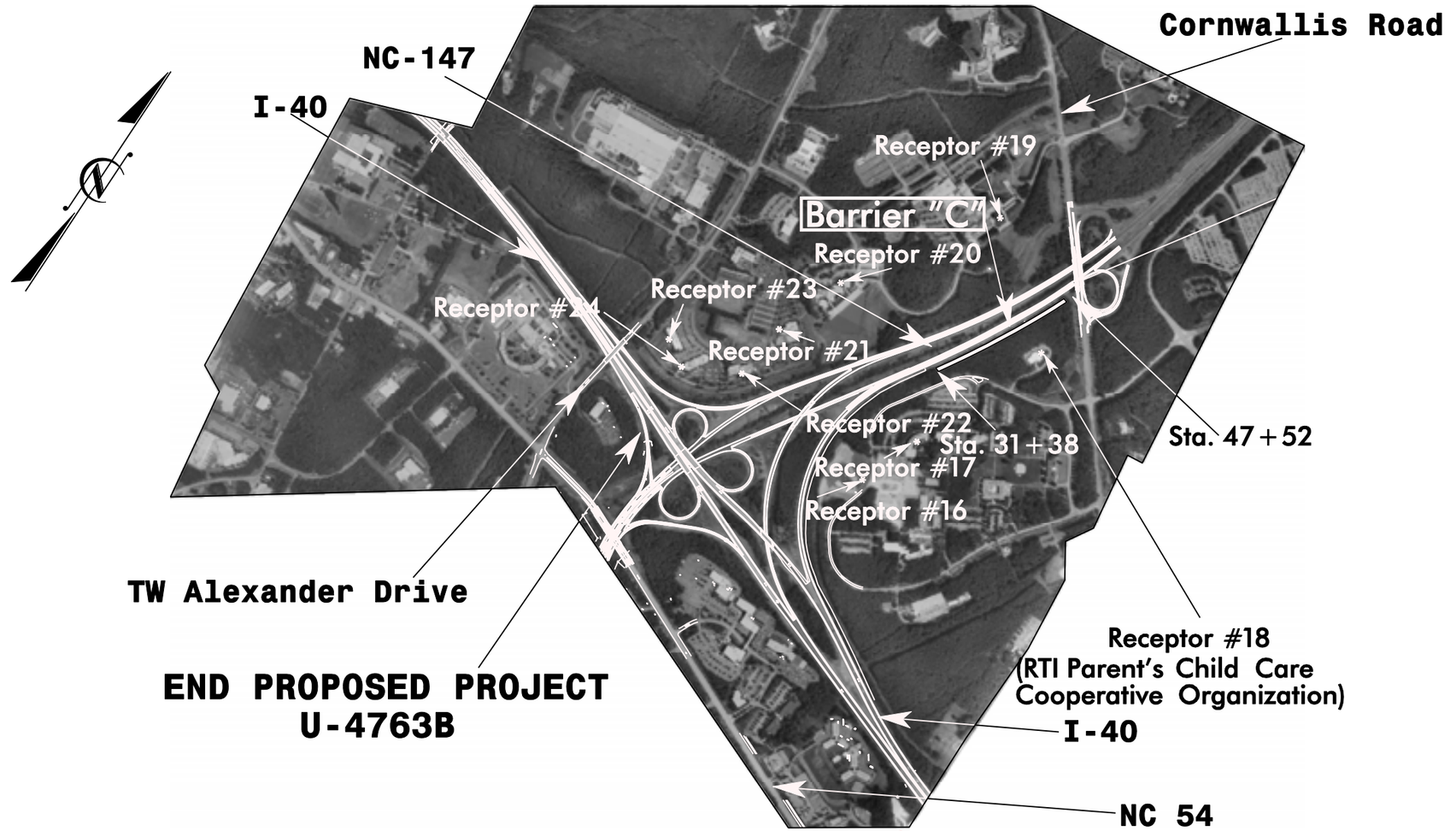


NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

Barrier B
(not recommended)

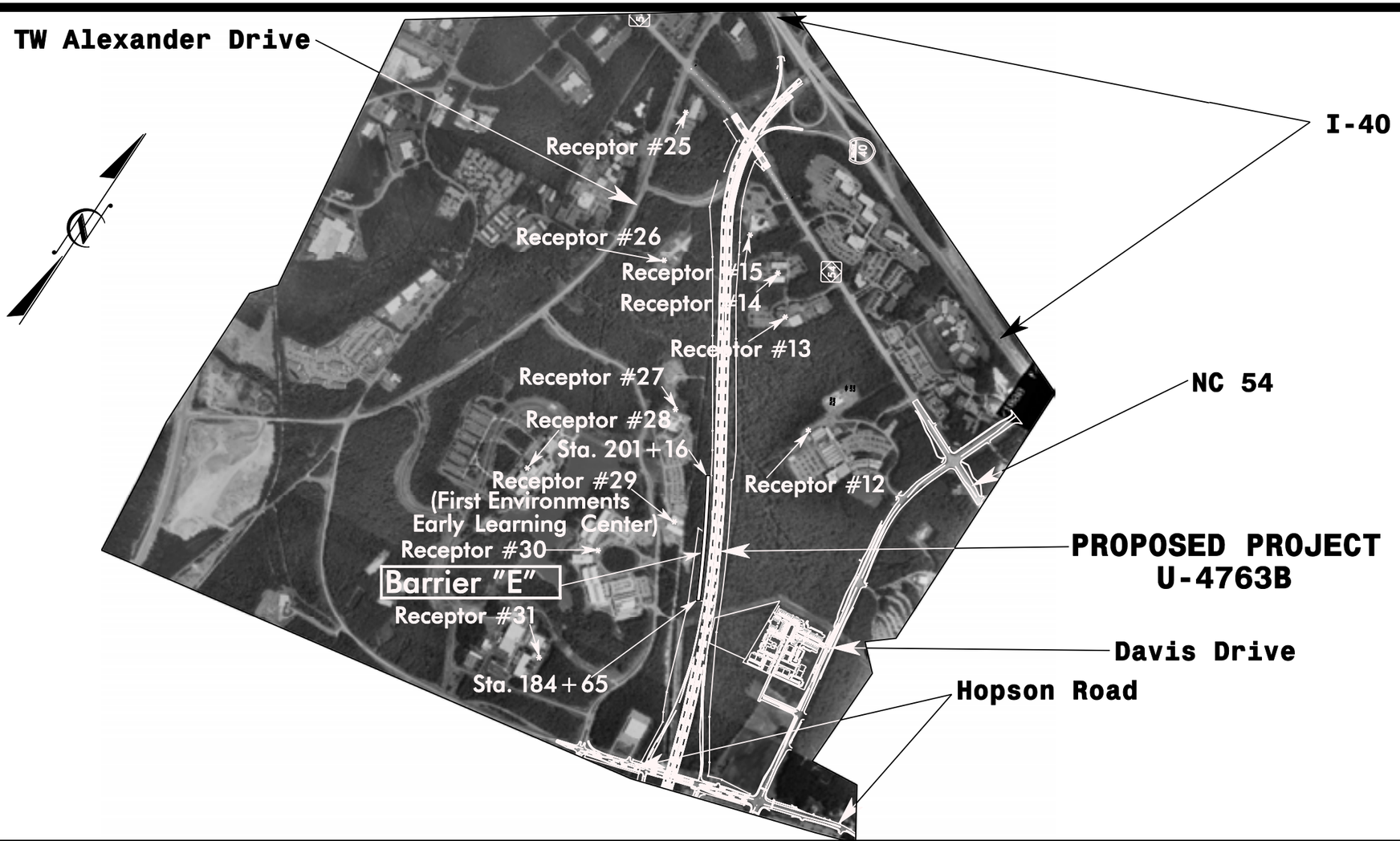


NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

Barrier C
(not recommended)

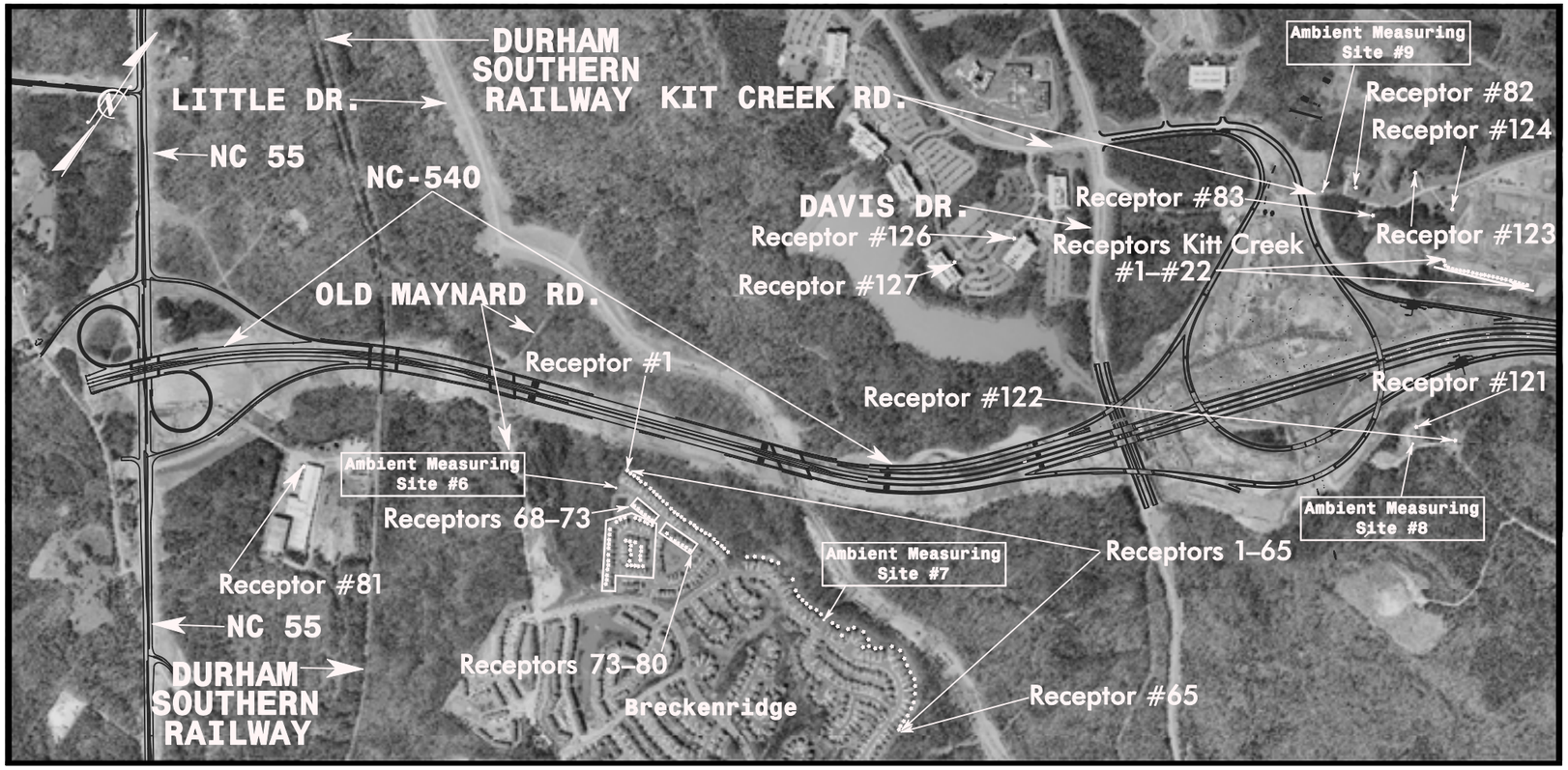


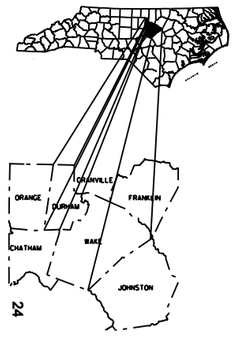
NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

Barrier E
(recommended)



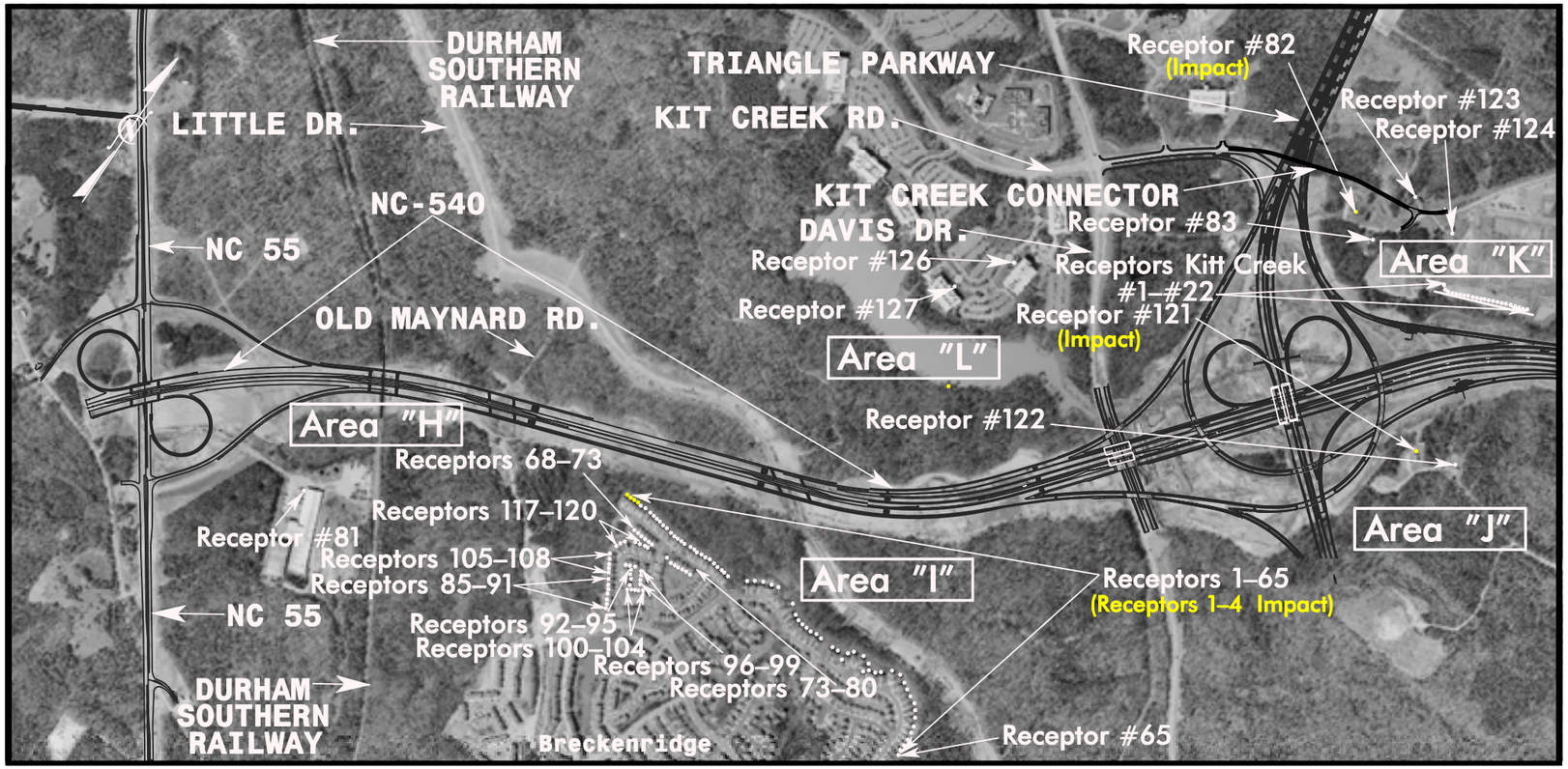


NOT TO SCALE

EXTENDED STUDY AREA
Project Location & Ambient Measuring Sites
PROPOSED TRIANGLE PARKWAY FROM NC–540 TO I–40
Durham and Wake Counties TIP No. U–4763B

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority



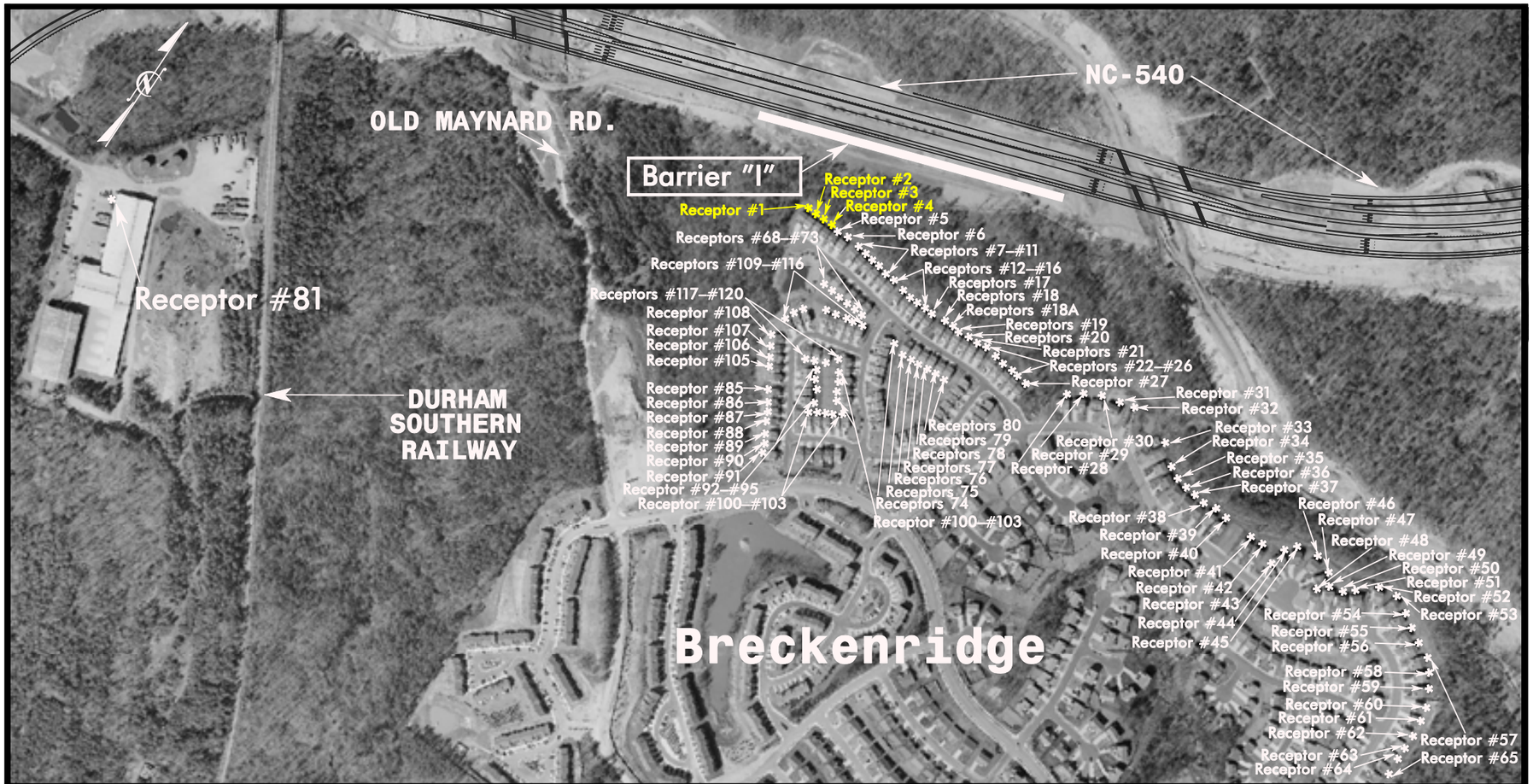
* : IMPACTED RECEPTOR

NOISE ANALYSIS AREAS
EXTENDED STUDY AREA
Triangle Parkway from NC–540 to I–40
Durham and Wake Counties TIP No. U–4763B

NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority



Barrier I
(not recommended)

* : IMPACTED RECEPTOR

NOT TO SCALE

NORTH CAROLINA Turnpike Authority

Prepared For:
North Carolina Turnpike Authority

Appendix D
Agency Comments and Correspondence

Agency Start of Study Letter
Agency Mailing list
Summary of Comments with Responses
Agency Scoping Comments
NCDOT comments
Agency Scoping Meeting Minutes
Agency Correspondence
NCTA TEAC Meeting Minutes
CAMPO-NCTA Memorandum of Understanding

STATE OF NORTH CAROLINA
TURNPIKE AUTHORITY

MICHAEL F. EASLEY
GOVERNOR

1501 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1501

DAVID W. JOYNER
EXECUTIVE DIRECTOR

December 16, 2005

Ms. Chrys Baggett
North Carolina Department of Administration
State Clearinghouse
1301 Mail Service Center
Raleigh, NC 27699-1301

RE: Start of Study and Formal Scoping Meeting Notification
Triangle Parkway – From I-40 to I-540
Durham and Wake Counties
TIP Project Number: U-4763

Dear Ms. Baggett:

The North Carolina Turnpike Authority (NCTA) has started the project development, engineering, and environmental studies for the proposed Triangle Parkway in Durham and Wake Counties (see Figure 1). The Triangle Parkway was first proposed in 1958, before the Research Triangle Park (RTP) opened for business, as an additional north-south commuter route for RTP employees. The Triangle Parkway was shown on the original master plan for the Park developed in the early 1960s. As it is currently defined, the Triangle Parkway will extend from I-40 (in Durham County) to I-540 (in Wake County). The candidate toll road project is programmed for planning and environmental study only in the 2006-2012 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program.

Based on a preliminary natural systems screening assessment conducted in August, 2005, there are several stream crossings within the project study area, but little or no wetlands were observed. The project study area contains suitable habitat for three (3) federally listed species: bald eagle, smooth coneflower, and Michaux's sumac. However, none of these species is documented to occur within two (2) miles of the project study area. Additionally, based on a July 25, 2005 review of existing records at the North Carolina Department of Cultural Resources, Office of State Archaeology, and the State Historic Preservation Office, Survey and Planning Branch, there are several historical archaeological sites noted in the project study area. However, these sites were noted as "not significant" or with "little likelihood of significant deposits". Several of these sites are located on the U.S. government complex in Durham County and have been developed. The study also concluded that no historic architectural sites occur within the project study area.

The NCTA anticipates preparing an Environmental Assessment and Finding of No Significant Impact (EA/FONSI) for the proposed project in accordance with the National Environmental Policy Act. We would appreciate any information you might have that would be helpful in

establishing the project study area, identifying preliminary corridors, and evaluating the potential environmental impacts of those corridors. Also, please identify any permits or approvals which may be required by your agency.

A formal scoping meeting will be held on January 13, 2006 in the Board Room (Room 150) of the NCDOT Transportation Building (Address: 1 South Wilmington Street, Raleigh, NC 27601). The meeting will begin at 10:00 a.m. The purpose of this meeting will be to identify important issues related to the proposed action that should be considered during the study process and to provide stakeholders an opportunity to discuss these issues with the study team. Therefore, it is desirable that your agency respond by January 12, 2005. Your response should be mailed to the following:

Ms. Gail Grimes, PE
North Carolina Turnpike Authority
1501 Mail Service Center
Raleigh, North Carolina 27699-1501

Should you have any questions concerning the proposed project, please contact Ms. Grimes (919) 733-4438. Please include the TIP Project Number in all correspondence and comments.

Sincerely,

David W. Joyner
Executive Director
North Carolina Turnpike Authority

cc: Mr.Gail Grimes, PE, NCTA
Mr. Robert McDowell, PE, HNTB
Ms. Anne Lenart-Redmond, EI, HNTB
Mr. Adin McCann, PE, HNTB

North Carolina Turnpike Authority
Triangle Parkway
December 16, 2005

FIGURE 1 - PROJECT LOCATION

- TRIANGLE PARKWAY (STUDY CORRIDOR)
- RESEARCH TRIANGLE PARK
- RDU INTERNATIONAL AIRPORT
- STATE PARKS & RECREATION AREAS
- FUTURE I-540 CORRIDOR
- COUNTY BOUNDARY

ROAD NETWORK

- INTERSTATE
- US ROUTE
- NC ROUTE
- SECONDARY ROUTE
- RAILROADS
- STREAMS & RIVERS
- WATER BODIES

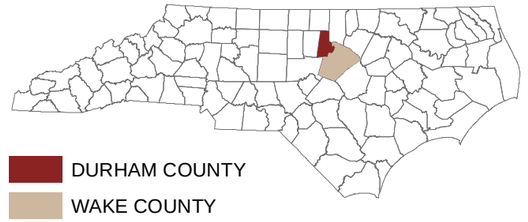
MUNICIPALITIES

- CARY
- CHAPEL HILL
- DURHAM
- MORRISVILLE
- RALEIGH

0 0.5 1 2 3 Miles

N

MAP SOURCES:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI)
WAKE COUNTY



North Carolina Turnpike Authority
Triangle Parkway
Start of Study Letter Mailing List
December 21, 2005

	NAME/TITLE	AGENCY	AGENCY2	COURIER NO.	ADDRESS	State	State	Zip	SAL	E-MAIL
State	Mr. Kenneth Spaulding	North Carolina Board of Transportation (Division 5)			1501 Mail Service Center	Raleigh	NC	27699-1501	Dear Mr. Spaulding:	kspaulding1@verizon.net
State	Mr. Perry Safran	North Carolina Turnpike Authority			PO Box 587	Raleigh	NC	27602	Dear Mr. Safran:	
State	Mr. Robb Teer	North Carolina Turnpike Authority			PO Box 13508	RTP	NC	27709	Dear Mr. Teer:	
State	Ms. Nina Szlosberg	North Carolina Board of Transportation (Division 5)			2710 Rosedale Avenue	Raleigh	NC	27607	Dear Ms. Szlosberg:	napro1@earthlink.net
State	Ms. Chrys Baggett	North Carolina Department of Administration	State Clearinghouse		1301 Mail Service Center	Raleigh	NC	27699-1301	Dear Ms. Baggett:	chrys.baggett@ncmail.net
State	Dr. Jeffrey J. Crow	North Carolina Department of Cultural Resources	Office of Archives and History		4610 Mail Service Center	Raleigh	NC	27699-4610	Dear Dr. Crow:	jeff.crow@ncmail.net
State	Dr. J. David Edwards, PhD	North Carolina Department of Public Instruction	School Planning	56-02-00	6319 Mail Service Center	Raleigh	NC	27699-6319	Dear Dr. Edwards:	dedwards@dpi.state.nc.us
State	Mr. D. R. Henderson, PE	North Carolina Department of Transportation	Hydraulics Unit		1590 Mail Service Center	Raleigh	NC	27699-1590	Dear Mr. Henderson:	dhenderson@dot.state.nc.us
State	Mr. Don G. Lee	North Carolina Department of Transportation	Roadside Environmental Unit	1557MSC	1557 Mail Service Center	Raleigh	NC	27699-1557	Dear Mr. Lee:	dlee@dot.state.nc.us
State	Mr. Njoroge Wainaina, PE	North Carolina Department of Transportation	Geotechnical Unit		1589 Mail Service Center	Raleigh	NC	27699-1589	Dear Mr. Wainaina:	nwainaina@dot.state.nc.us
State	Mr. Charles W. Brown, PE, PLS	North Carolina Department of Transportation	Location and Surveys Unit	1588MSC	1588 Mail Service Center	Raleigh	NC	27699-1588	Dear Mr. Brown	charliebrown@dot.state.nc.us
State	Mr. John B. Williamson, Jr.	North Carolina Department of Transportation	Right of Way Branch		1546 Mail Service Center	Raleigh	NC	27699-1546	Dear Mr. Williamson	jwilliamson@dot.state.nc.us
State	Mr. J. Kevin Lacy, PE	North Carolina Department of Transportation	Traffic Engineering & Safety Systems Branch		1561 Mail Service	Raleigh	NC	27699-1561	Dear Mr. Lacy	jklacy@dot.state.nc.us
State	Mr. Tom Norman, Director	North Carolina Department of Transportation	Bicycle & Pedestrian Division	1552MSC	1552 Mail Service Center	Raleigh	NC	27699-1552	Dear Mr. Norman:	tnorman@dot.state.nc.us
State	Mr. William H. Williams, Jr.	North Carolina Department of Transportation	Division of Aviation	1560MSC	1560 Mail Service Center	Raleigh	NC	27699-1560	Dear Mr. Williams:	wwilliams@dot.state.nc.us
State	Mr. James B. Harris, PE	North Carolina Department of Transportation	Engineering & Safety Branch, Capital Yard	1556MSC	1556 Mail Service Center	Raleigh	NC	27699-1556	Dear Mr. Harris:	jbharris@dot.state.nc.us
State	Mr. David Hinnant	North Carolina Department of Transportation	Utilities Coordination Unit	1555MSC	1555 Mail Service Center	Raleigh	NC	27699-1555	Dear Mr. Hinnant:	dhinnant@dot.state.nc.us
State	Mr. Phillip Harris, III, PE	North Carolina Department of Transportation	Natural Environment Unit	1598MSC	1598 Mail Service Center	Raleigh	NC	27699-1598	Dear Mr. Harris:	pharris@dot.state.nc.us
State	Mr. John Hennessy	North Carolina Department of Environment and Natural	Division of Water Quality/Wetlands & Stormwater		1650 Mail Service Center	Raleigh	NC	27699-1650	Dear Mr. Hennessy:	john.hennessy@ncmail.net
State	Mr. Jon Nance	North Carolina Department of Transportation	Highway Division 5	17-27-03	2612 N. Duke Street	Durham	NC	27704	Dear Mr. Nance:	jnance@dot.state.nc.us
State	Ms. Shannon Deaton	North Carolina Wildlife Resource Commission			1721 Mail Service Center	Raleigh	NC	27699-1721	Dear Ms. Deaton:	shannon.deaton@ncwildlife.org
Federal	Director	US Department of Agriculture	Agricultural and Environmental Quality		Office of the Secretary	Washington	DC	20250	Dear Director:	
Federal	Mr. Heinz Mueller	US Environmental Protection Agency			61 Forsyth Street	Atlanta	GA	30303	Dear Mr. Mueller:	mueller.heinz@epa.gov
Federal	Director	Federal Emergency Management Agency			3003 Chamblee Tucker Road	Atlanta	GA	30341-4148	Dear Director:	
Federal	District Chief	US Geological Survey	Raleigh Field Office		3916 Sunset Ridge Road	Raleigh	NC	27607	Dear District Chief:	
Federal	Chief of Planning & Environmental Branch	US Army Corps of Engineers	Wilmington District Office		Post Office Box 1890	Wilmington	NC	28402-1890	Dear Chief:	
Federal	Mr. Ken Jolly	US Army Corps of Engineers	Wilmington District Office		Post Office Box 1890	Wilmington	NC	28402-1890	Dear Mr. Jolly:	samuel.k.jolly@saw02.usace.army.mil
Federal	Mr. Pete Benjamin	US Fish & Wildlife Service	Fish & Wildlife Enhancement		Post Office Box 33726	Raleigh	NC	27636-3726	Dear Mr. Benjamin:	FW4ESRaleigh@fws.gov
Local	Mr. Mark Ahrendsen	Durham-Chapel Hill-Carrboro MPO			101 City Hall Plaza	Durham	NC	27701	Dear Mr. Ahrendsen:	mark.ahrendsen@durhamnc.gov
Local	Mr. Edison Johnson	Capital Area MPO			127 West Hargett Street	Raleigh	NC	27601	Dear Mr. Johnson:	ed.johnson@ci.raleigh.nc.us
Local	Ms. Melanie Wilson	Wake County Planning Department			P.O. Box 550	Raleigh	NC	27602	Dear Ms. Wilson:	melanie.wilson@co.wake.nc.us
Local	Mr. Frank Duke, AICP	Durham City/County Planning			101 City Hall Plaza	Durham	NC	27701	Dear Mr. Duke:	frank.duke@durhamnc.gov
Local	Mr. Ben Hitchings	Town of Morrisville Planning Department			100 Town Hall Drive	Morrisville	NC	27560	Dear Mr. Hitchings:	bhitchings@ci.morrisville.nc.us
Local	Mr. Jeff Ulma	Town of Cary Planning Department			P.O. Box 8005	Cary	NC	27512-8005	Dear Mr. Ulma:	jeff.ulma@townofcary.org
Local	Mr. Don Carnell	Triangle Transit Authority			P.O. Box 13787	Research Triangle Park	NC	27709	Dear Mr. Carnell:	dcarnell@rideTTA.org

North Carolina Turnpike Authority
Triangle Parkway
Start of Study Letter Mailing List
July 28, 2005

	NAME/TITLE	AGENCY	AGENCY2	COURIER NO.	ADDRESS	ADDRESS2	CSZ	SAL
√ State	Ms. Chrys Baggett	State Clearinghouse	North Carolina Department of Administration			1301 Mail Service Center	Raleigh, N. C. 27699-1301	Dear Ms. Baggett:
√ State	Dr. Jeffrey J. Crow	Office of Archives and History	North Carolina Department of Cultural Resources			4610 Mail Service Center	Raleigh, N. C. 27699-4610	Dear Dr. Crow:
√ State	Dr. J. David Edwards, PhD	School Planning	North Carolina Department of Public Instruction	56-02-00			No Mail Service address	Dear Dr. Edwards:
√ State	Mr. D. R. Henderson, PE	Hydraulics Unit	North Carolina Department of Transportation			1590 Mail Service Center	Raleigh, 27699-1590	Dear Mr. Henderson:
√ State	Mr. Don G. Lee	Roadside Environmental Unit	North Carolina Department of Transportation	1557MSC		1557 Mail Service Center	Raleigh, NC 27699-1557	Dear Mr. Lee:
√ State	Mr. Njoroge Wainaina, PE	Geotechnical Unit	North Carolina Department of Transportation			1589 Mail Service Center	Raleigh, 27699-1589	Dear Mr. Wainaina:
√ State	Mr. Charles W. Brown, PE, PLS	Location and Surveys Unit	North Carolina Department of Transportation	1588MSC		1588 Mail Service Center	Raleigh, NC 27699-1588	Mr. Charles W. Brown, P. E., PLS
√ State	Mr. John B. Williamson, Jr.	Right of Way Branch	North Carolina Department of Transportation			1546 Mail Service Center	Raleigh, 27699-1546	Mr. John B. Williamson, Jr.
√ State	Mr. J. Kevin Lacy, PE	Traffic Engineering & Safety Systems Branch	North Carolina Department of Transportation			1561 Mail Service	Raleigh, 27699-1561	Mr. J. Kevin Lacy, P. E.
√ State	Mr. Tom Norman, Director	Bicycle & Pedestrian Division	North Carolina Department of Transportation	1552MSC		1552 Mail Service Center	Raleigh, NC 27699-1552	Mr. Tom Norman, Director
√ State	Mr. William H. Williams, Jr.	Division of Aviation	North Carolina Department of Transportation	1560MSC		1560 Mail Service Center	Raleigh, NC 27699-1560	Mr. William H. Williams, Jr.
√ State	Mr. James B. Harris, PE	Engineering & Safety Branch, Capital Yard	North Carolina Department of Transportation	1556MSC		1556 Mail Service Center	Raleigh, NC 27699-1556	Mr. James B. Harris, P. E.
√ State	Mr. David Hinnant, State Railroad Agent	Utilities Coordination Unit	North Carolina Department of Transportation	1555MSC		1555 Mail Service Center	Raleigh, NC 27699-1555	Mr. David Hinnant, State Railroad
√ State	Mr. Phillip Harris, III, PE	Natural Environment Unit	North Carolina Department of Transportation	1598MSC		1598 Mail Service Center	Raleigh, NC 27699-1598	Mr. Phillip Harris, III, PE
√ State	Mr. John Hennessy	Division of Water Quality/Wetlands & Stormwater	North Carolina Department of Environment and Natural Resources			1650 Mail Service Center	Raleigh, NC 27699-1650	Dear Mr. Hennessy:
√ State	Mr. Jon Nance	Division Engineer, Division	North Carolina Department of Transportation	17-27-03	Highway Division 5	2612 N. Duke Street	Durham, NC 27704	Dear Mr. Nance:
√ State	Ms. Shannon Deaton	NC Wildlife Resource Commission				1721 Mail Service Center	Raleigh, NC 27699-1721	Dear Ms. Deaton:
√ Federal	Director, Agricultural and Environmental Quality	US Department of Agriculture			Office of the Secretary		Washington, DC 20250	Dear Sir or Madam:
√ Federal	Mr. Heinz Mueller	USEPA , Region 4				61 Forsyth Street	Atlanta, GA 30303	Dear Mr. Mueller:
√ Federal	Director	Federal Emergency Management Administration			3003 Chamblee Tucker Road		Atlanta, GA 30341-4148	Dear Sir or Madam:
√ Federal	District Chief	US Geological Survey			Raleigh Field Office	3916 Sunset Ridge Road	Raleigh, NC 27607	Dear Sir or Madam:
√ Federal	Chief of Planning & Environmental Branch	US Army Corps of Engineers			Wilmington District Office	Post Office Box 1890	Wilmington, NC 28402-1890	Dear Sir or Madam:
√ Federal	Mr. Ken Jolly	US Army Corps of Engineers			Wilmington District Office	Post Office Box 1890	Wilmington, NC 28402-1890	Dear Mr. Jolly:
√ Federal	Mr. Pete Benjamin, Field Supervisor	US Fish & Wildlife Service			Fish & Wildlife Enhancement	Post Office Box 33726	Raleigh, NC 27636-3726	Dear Mr. Benjamin:

Scoping/Start of Study Comments
Triangle Parkway
TIP No. U-4763B

Name	Agency Date	Comments	Response Chapter in EA
Chrys Baggett	Environmental Policy Act Coordinator 12/22/05	Assigned project State Application Number 06-E-0000-0204 and distributed to agencies	No response needed
Pete Benjamin	US Dept of the Interior - Ecological Services Supervisor 12/27/05	1) Wetland and forest impacts should be avoided and minimized to max. extent, areas w/ high biodiversity or ecological value should be avoided, proposed projects should be aligned along or adjacent to existing roadways or other previously disturbed areas and shoulder and median widths should be reduced through wetland areas. 2) Crossings of streams and associated wetlands should use existing crossings and/or occur on a bridge which should be long enough to allow for sufficient wildlife passage. Culverts should maintain natural water flow w/out scouring or impeding fish and wildlife passage. 3) Bridges and approaches should be designed to avoid any fill that could result in damming or constriction of the channel or flood plain. 4) Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer. 5) Off-site detours rather than temporary on-site bridges. Detour should be entirely removed and impacted area should be planted w/ appropriate vegetation. 6) If wetland/stream impacts are unavoidable, a plan for compensatory mitigation should be provided early in the planning process. 7) Whenever appropriate, construction should occur outside fish spawning and migratory bird nesting seasons. 8) Best Management Practices for protection of surface waters should be implemented. 9) Activities w/n designated riparian buffers should be avoided or minimized. ---Fulfillment of Section 7(a)(2) of the Endangered Species Act, a biological assessment/evaluation may be prepared to fulfill the section requirement. Use of the NCNHP would not be substituted for actual field surveys if suitable habitat occurs near the project site. ---Recommend the following for thorough review of the action; Clearly defined and detailed purpose and need supported by tabular data include a discussion of project's independent utility. Description of proposed action w/ analysis of all alternatives considered. Description of the fish and wildlife resources and habitats w/n the impact area. Extent of waters of the US, including wetlands that are to be impacted by the project. Anticipated environmental impacts both temporary and permanent, and secondary impacts. Design features and construction techniques used to avoid or minimize impact. Design features and construction used to at wetland crossings and stream channel relocations. If impacts are unavoidable, planning should include a compensatory mitigation plan for offsetting the impacts.	The natural resources identified in the project area were used to develop the location of the preferred alternative to minimize impacts to these resources. The impacts from the project including proposed mitigation and the commitment to follow the standard NCDOT Best Management practices during construction is included in this EA. (See Green Sheet and Chapters 2, 3, and 5)

Noel Clay	Dept of the Army - Chief Planning Services Section 1/4/06	Proposed location crosses several FEMA flood plains/ways. These areas will have to be restudied to determine the impacts of the proposed road, as well as several streams. Strongly suggest the property inspected to determine the extent of Dept of Army jurisdiction.	Stream crossings, hydraulic structures, and impacts are identified in this EA and have been coordinated with regulatory agencies throughout the development of the Preferred Alternative. FEMA approvals for potential changes or impacts to the floodplains or floodways will be implemented prior to construction. (See Chapters 3, 5, and 7)
Harry LeGrand	NCDENR - Natural Heritage Program 1/11/06	Location of the State Significantly Rare Earle's blazing-star along the eastern edge of the project area. Population occurs in the ditches along Jenkins Road and in the cleared power line easement to the east of this road. A variety of other plants characteristics of basic soils are present. If at all possible, the alignment should be moved far enough to the west that the power line clearing and the adjacent woodland be left in their current condition.	Measures to avoid and if not avoidable, measure to minimize impacts to species were incorporated into the project. The habitat and impacts to the blazing-star is discussed in Chapters 4 and 5.
Ben Hitchings	Town of Morrisville – Planning Director 1/12/06	1) Scope should include impact analysis on area transportation system w/ and w/out connection to McCrimmon and Town Hall Drive. 2) Careful attention to be paid to an appropriate transition from limited access reg. parkway to community thoroughfares and collectors. 3) Consideration of pedestrian and bicycle connections to the system. 4) Consideration of HOV lanes. 5) Special consideration of noise and visual impacts to residential subdivisions i.e. landscaping and buffering designs. 6) Identify improvements needed to surrounding transportation facilities as a result of project. 7) Include underpasses and culverts for roads, sidewalks and greenways that cut the project ROW (existing NCDOT commitment for Kitts Creek Rd and should study similarities for Shiloh Grove.)	(1) A review of extending the project from NC 540 to McCrimmon Connector was evaluated concluded not to be financially feasible and is not included as part of this project. (See Chapter 7.3 and Appendix D – December 15, 2006 TEAC Meeting Minutes) (2) The project is proposed as a controlled access facility along its entire length. (See Chapter 3) (3) Bicycle and pedestrian use along Triangle Parkway will not be permitted; however, connectivity for sidewalks and RTF multi-use paths are accommodated as currently planned. (See Chapters 4 and 5) (4) Accommodations for HOV lanes are not included as part of the Preferred Alternative. (See Chapter 2) (5) Results of the impact assessment are provided in Chapter 5. (6) The traffic analyses reviewed adjacent roadways and the Preferred Alternative includes upgrades to several roadways (See Chapters 2 and 3) (7) The Preferred Alternative includes a bridge over Triangle Parkway to provide Kit Creek Road connectivity between Davis Drive and Church Street. (See Chapter 3)

Michael Mann	NCDENR - NC Div of Forest Resources 1/17/06	1) To evaluate construction impact, list by timber type, the total forest land acreage to be removed or taken out of forest production. Fragmentations of woodlots make forest management difficult. 2) Efforts should be made to avoid or minimize impact to forest resources i.e. unique or unusual ecosystems and highly productive woodlands and wetlands. 3) EA to include summary of potential productivity of the forest stands affected by project. 4) Provisions the contractor will take to utilize the merchantable timber removed during construction. Emphasis on selling wood products or taking steps to mulch. 5) If woodland burning is needed, contractor must comply with law under G.S. 113-60.21 through G.S. 113-60.31. 6) Provisions the contractor will take to prevent erosion and damage to forestland outside the ROW. Roots can be damaged by heavy equipment, avoid skinning of tree trunk, compacting soil etc. 7) Existing greenways should be considered during the impact analysis.	The communities types within the study area and impacts associated with the project are discussed in Chapters 4 and 5. The project includes a commitment to minimize clearing where possible and further coordination by the contractor during construction will be maintained to insure NCDOT best management practices and appropriate compliance with general statues are followed. (See Green Sheet and Chapter 5)
Travis Wilson	NC Wildlife Resources Commission - Highway Project Coordinator 1/17/06	The majority of impacts to natural resources will involve stream impacts. Project located in Triassic soils which has been found to be problematic in these soils particularly when coupled with urban development and right of way limitations.	An evaluation of the stream impacts and potential mitigation was coordinated throughout the project development with technical reports, field meetings, and TEAC Meetings. Impacts to natural resources and coordination regarding these impacts are discussed in this EA. (See Chapters 5 and 7)
Nicole Thomson	NCDWQ 1/18/06	Recommend pre-application process prior to 401 Water Quality Certification application. 2) It is not clear what process will be followed should a non-toll road be selected for this project. 3) NCTA needs to provide info regarding existing traffic and future no-build average daily traffic, roadway geometric deficiencies and accident history, trans. Plans, land-use plans, project history and background information, natural and human environment impacts and anticipated costs. 4) Not clear if the proposed study corridor is wide enough for all regional data necessary to justify a new location road, including existing I-40 and future I-540. Add. Is the project study area large enough for a full range of alternatives? 5) What is the proposed schedule for I-540 in the study area, before or after parkway project? 6) Document shows no mapping of wetlands, streams, or riparian buffers. Add. Shows no specified amount of anticipated impacts to above. 7) NCTA reminded to demonstrate avoidance and minimization of impacts to wetlands to max. extent. 8) Mitigation will be form impacts greater than 150 feet to any single perennial stream. 9) NCTA reminded to include specifics for both onsite and offsite mitigation plans.10) Future documentation should include itemized listing of proposed wetland, stream and riparian buffer impacts with corresponding mapping. (*continued next page)*	The project was coordinated with NCDWQ representatives throughout the development of the alternatives and identification of the Preferred Alternative. Additional information concerning the Regional/Comprehensive plans in the project area was also reviewed at the TEAC Meetings discussed in Chapter 7. The alternative evaluation for the project is provided in Chapter 2. Technical Reports for natural resources including the Waters of the US were provided to the agencies and are summarized in Chapter 4. Measures to minimize impacts were incorporated into the Preferred Alternative (See Chapters 3 and 5) and additional coordination with the agencies will be provided during the final design. During construction NCTA will follow standard and best management practices in accordance with NCDOT polices and procedures. (See Green Sheet and Chapter 5)

Nicole Thomson (*continued*)	NCDWQ 1/18/06 (*continued*)	11) Recommends spanning structures and countersunk culverts. Avoid installing bridge bents in creek. 12) Sediment and erosion control measures should not be placed in wetlands. 13) Sedimentation and erosion control measures to be implemented prior to ground disturbing activities. Structures to be maintained regularly esp. after rainfall events. 14) Borrow/waste areas should avoid wetlands to max. extent. 15) Bridge deck drains should not discharge directly into stream but pre-treated through site-appropriate means. 16) 401 application will need to specifically address proposed methods for storm water management. 17) Bare soil should be stabilized. 18) All work adjacent to stream waters to be conducted in a dry area. 19) Live concrete should not come in to contact with the stream water. 20) Temporary roads should be removed back to original ground elevations upon completion of the project. Disturbed areas to be stabilized and native tree species planted with a spacing no more than 10'x10'. Leave stumps and root mat for natural revegitation. 21) NCTA reminded that all impacts to be included in the final impact calculations. 22) Heavy equipment to be operated from the bank rather than in stream channels and should be inspected daily and maintained.	(*responses on previous page*)
Michael Douglas	NCDNR – Division of Environmental Health 1/20/06	Public Water Supply Program, insufficient information to complete review.	There are no Outstanding Resource Waters (ORW), High Quality Waters (HQW), or drinking water supply (WS-I or WS-II) waters within a one mile radius of the study area (NCDWQ, 2006a).(See Chapters 4 and 5)
Robert L. Sands, Jr REFP	Durham Public Schools Office of Operational Services 1/24/06	We see no conflicts in the proposed Triangle Parkway project at this time.	No response needed
Peter Sandbeck	NC Dept of Cultural Resources 2/15/06	We have conducted a review of the project and are aware of no historic resources that would be affected by the project.	No response needed
Melba McGee	NCDENR - Project Review Coordinator. 2/28/06	Attached comments after response due date.	No response needed
Chrys Baggett	Environmental Policy Act Coordinator. 3/2/06	States the environmental impact information has been submitted to the State Clearinghouse under the provisions of the EPA. Attaching agency comments	No response needed
M. Carter Worthy	TTA - Chair Board of Trustees 5/5/06	1) Design should include provisions for transit and HOV infrastructure. 2) Fare structure for incentives for individuals to utilize public transportation and other shared rides, reductions or elimination of fares for above.	The Preferred Alternative does not include any specific transit or HOV accommodations; however, the project does not preclude these opportunities, which could be reviewed in the future with further coordination with NCTA. (See Chapter 3)

NCDOT Scoping Comments			
James B. Harris	NCDOT Rail Division - Engineering Manager 1/5/06	After review of the project letter and location of railroad tracks w/n the project study area it has been determined that no rail interaction is anticipated on this project.	No response needed
Leonard G. Scarborough	NCDOT - Division of Right of Way Agent - Division 5 1/12/06	The toll road is programmed for Planning and Environmental study only in the 2006 to 2012 Transportation Improvement Program. Public Utilities are provided by both counties, prices for land owned by the Research Triangle Foundation of NC are set and land prices for individual property owners have increased 100% w/ the past two years. This would reduce congestion, which would further reduce ROW costs and highway maintenance for the triangle area.	No response needed
Jeffery M. Garland	NCDOT - Traffic Engineering Congestion Management 1/30/06	Recommends an Interchange Justification Report for I-540 for submittal to the FHWA. Recommend scoping meetings with FHWA and Congestion Management to determine the required limits and design year of the studies. Recommends interchange justification report be done for I-540 and an interchange modification report be done for I-40 near the completion of the EA in October 2006	Traffic analyses were prepared at the Triangle Parkway/NC 540 Interchange to review the traffic demands on the interchange and NC 540 during the year 2030. The results of the analyses were coordinated with NCDOT. See Chapters 2 and 3 for this EA for more information.

North Carolina
Department of Administration

Michael F. Easley, Governor

Gwynn T. Swinson, Secretary

December 22, 2005

Ms. Gail Grimes
State of N.C. Turnpike Authority
1501 Mail Service Center
Raleigh NC 27699-1548

Dear Ms. Grimes:

Subject: Scoping - Proposed project to extend the Triangle Parkway from I-40 (in Durham County) to I-540 (in Wake County); TIP No. U-4763.

The N. C. State Clearinghouse has received the above project for intergovernmental review. This project has been assigned State Application Number 06-E-0000-0204. Please use this number with all inquiries or correspondence with this office.

Review of this project should be completed on or before 01/22/2006. Should you have any questions, please call (919)807-2425.

Sincerely,

Chrys Baggett

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail: Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
December 27, 2005

Ms. Gail Grimes, PE
North Carolina Turnpike Authority
1501 Mail Service Center
Raleigh, North Carolina 27699-1501

Dear Ms. Grimes:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the proposed Triangle Parkway from I-40 to I-540 in Durham and Wake Counties, North Carolina (TIP No. U-4763). These comments provide scoping information in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661-667d) and section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

The Service recommends the following general conservation measures to avoid or minimize environmental impacts to fish and wildlife resources:

1. Wetland and forest impacts should be avoided and minimized to the maximal extent practical. Areas exhibiting high biodiversity or ecological value important to the watershed or region should be avoided. Proposed highway projects should be aligned along or adjacent to existing roadways, utility corridors or other previously disturbed areas in order to minimize habitat loss and fragmentation. Highway shoulder and median widths should be reduced through wetland areas;

2. Crossings of streams and associated wetland systems should use existing crossings and/or occur on a bridge structure wherever feasible. Bridges should be long enough to allow for sufficient wildlife passage along stream corridors. Where bridging is not feasible, culvert structures that maintain natural water flow and hydraulic regimes without scouring or impeding fish and wildlife passage should be employed;

3. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain. To the extent possible, piers and bents should be placed outside the bank-full width of the stream. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approach to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected area;

4. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;

5. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along the side of the existing structure which has the least and/or least quality of fish and wildlife

habitat. At the completion of construction, the detour area should be entirely removed and the impacted areas be planted with appropriate vegetation, including trees if necessary;

6. If unavoidable wetland or stream impacts are proposed, a plan for compensatory mitigation to offset unavoidable impacts should be provided early in the planning process. Opportunities to protect mitigation areas in perpetuity via conservation easements, land trusts or by other means should be explored at the outset;

7. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons. In waterways that may serve as travel corridors for fish, in-water work should be avoided during moratorium periods associated with migration, spawning and sensitive pre-adult life stages. The general moratorium period for anadromous fish is February 15 - June 30;

8. Best Management Practices (BMP) for Protection of Surface Waters should be implemented; and

9. Activities within designated riparian buffers should be avoided or minimized.

Section 7(a)(2) of the Endangered Species Act requires that all federal action agencies (or their designated non-federal representatives), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed threatened or endangered species. A biological assessment/evaluation may be prepared to fulfill the section 7(a)(2) requirement and will expedite the consultation process. To assist you, a county-by-county list of federally protected species known to occur in North Carolina and information on their life histories and habitats can be found on our web page at http://nc-es.fws.gov/es/countyfr.html .

Although the North Carolina Natural Heritage Program (NCNHP) database does not indicate any known occurrences of listed species near the project vicinity, use of the NCNHP data should not be substituted for actual field surveys if suitable habitat occurs near the project site. The NCNHP database only indicates the presence of known occurrences of listed species and does not necessarily mean that such species are not present. It may simply mean that the area has not been surveyed. If suitable habitat occurs within the project vicinity for any listed species, surveys should be conducted to determine presence or absence of the species.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a listed species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on listed species, then you are not required to contact our office for concurrence.

We reserve the right to review any federal permits that may be required for this project, at the public notice stage. Therefore, it is important that resource agency coordination occur early in the planning process in order to resolve any conflicts that may arise and minimize delays in project implementation. In addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action:

1. A clearly defined and detailed purpose and need for the proposed project, supported by tabular data, if available, and including a discussion of the project's independent utility;

2. A description of the proposed action with an analysis of all alternatives being considered,

including the upgrading of existing roads and a "no action" alternative;

3. A description of the fish and wildlife resources, and their habitats, within the project impact area that may be directly or indirectly affected;

4. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National Wetlands Inventory (NWI). Wetland boundaries should be determined by using the 1987 Corps of Engineers Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers;

5. The anticipated environmental impacts, both temporary and permanent, that would be likely to occur as a direct result of the proposed project. The assessment should also include the extent to which the proposed project would result in secondary impacts to natural resources, and how this and similar projects contribute to cumulative adverse effects;

6. Design features and construction techniques which would be employed to avoid or minimize impacts to fish and wildlife resources, both direct and indirect, and including fragmentation and direct loss of habitat;

7. Design features, construction techniques, or any other mitigation measures which would be employed at wetland crossings and stream channel relocations to avoid or minimize impacts to waters of the US; and,

8. If unavoidable wetland or stream impacts are proposed, project planning should include a compensatory mitigation plan for offsetting the unavoidable impacts.

The Service appreciates the opportunity to comment on this project. Please continue to advise us during the progression of the planning process, including your official determination of the impacts of this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,

For /Pete Benjamin
Pete Benjamin
Ecological Services Supervisor

cc: Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON. NORTH CAROLINA 28402-1890

REPLY TO
ATTENTION OF:

January 4, 2006

Planning Services Section

Ms. Gail Grimes, PE
North Carolina Turnpike Authority
1501 Mail Service Center
Raleigh, NC 27699-1501

Dear Ms Grimes:

This is in reply to your December 16, 2005, letter requesting our comments regarding environmental review issues relative to the proposed Triangle Parkway in Durham and Wake Counties, North Carolina. The specific improvements include a toll parkway, TIP Project Number U-4763, in Research Triangle Park, Durham and Morrisville, NC, from I-40 in Durham County to I-540 in Wake County. This information is to be used in an environmental review for potential corridors for the parkway.

The proposed location crosses several Federal Emergency Management Agency (FEMA) flood plains and flood ways. These streams will most likely have to be restudied to determine the impacts of the proposed road. There are several unstudied streams that should be studied to make sure that the flooding potential will not be increased by the project. Any questions related to flood plains for this response may be directed to Mr. Ray Batchelor at (910) 251-4729.

Based on your preliminary information, there may be waters or wetlands on the proposed work sites. Prior to beginning work, we strongly suggest you have the property inspected to determine the extent of Department of the Army (DA) jurisdiction. If there are questions related to jurisdictional waters or wetlands, please contact Mr. Eric Alsmeyer of our Raleigh Regulatory Field Office at (919) 876-8441, extension 23.

Sincerely,

Noel Clay

Noel Clay, Chief
Planning Services Section

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 11, 2006

MEMORANDUM

TO: Melba McGee

FROM: Harry LeGrand, Natural Heritage Program HL

SUBJECT: Scoping – Triangle Parkway, from I-40 to I-540; Durham and Wake counties; TIP Project U-4763

REFERENCE: 06-0204

The Natural Heritage Program has a location of the State Significantly Rare Earle's blazing-star (*Liatris squarrulosa*) along the eastern edge of the project area. This population was first observed in 1996 and is still present, as seen in September 2004. The population occurs in the ditches along Jenkins Road and in the cleared powerline easement to the east of this road (see enclosed material). This powerline and road apparently runs along a diabase dike. A variety of other plants characteristic of basic soils are present, including a Basic Oak-Hickory Forest nearby.

We hope that this important area will not be impacted by the Triangle Parkway. If at all possible, the alignment should be moved far enough to the west that the powerline clearing and the adjacent woodland be left in their current condition. Our Program may wish to enact some protection measures for this site (east of Jenkins Road).

You may wish to check the Natural Heritage Program database website at <www.ncsparks.net/nhp/search.html> for a listing of rare plants and animals and significant natural communities in the county and on the appropriate topographic quad maps. Please do not hesitate to contact me at 919-715-8697 if you have questions or need further information.

Enclosures

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 • FAX: 919-715-3060 • Internet: www.enr.state.nc.us

Element Occurrence Report

2004-09-16

EO ID 20387 **Scientific Name** *Liatris squarrulosa* **EO Number** 37 **ELCODE BCD** PDAST5X0V0

ead Responsibility USNCHP **Version Date** 2004/09/16 **Transcription Date** 2004/09/16
ersion Author M. Franklin **Transcribed By** M. Franklin

Element Occurrence Report

2004-09-16

EO ID 20387 **Scientific Name** *Liatris squarrulosa* **EO Number** 37 **ELCODE BCD** PDAST5X0V0

Summary

Nation US **State** NC
Common Name Earle's Blazing Star **Global Rank** G4G5 **State Rank** S2
Federal Protection Status **State Protection Status** SR-P

Locators/Directions

County Name
Durham (NC)
Mapsheet Name
Southeast Durham
Margin Num 5
Watershed
03030002 - Haw
Physiographic Province
Latitude 355241N **Longitude** 0785203W
Site Name
Survey Site
Research Triangle Park - Jenkins Road Diabase Dike

Directions Research Triangle Park - Jenkins Road Diabase Dike. From the intersection of Highway 54 and State Road 1978, travel west approximately 0.9 miles. Turn north onto Jenkins Road, an unpaved road, and park. The population occurs in the roadway ditches and in the cleared powerline easement east of Jenkins Road.

Survey Information

Basic EO Rank C - Fair estimated viability **EO Rank Date** 2004-09-15
EO Rank Comment
Principal EO **Sub EO Number**
EO Data Approximately 50 individuals observed in the powerline easement and the unpaved road that runs under the main powerline (Kanipe 2004).
Survey Type Quantitative ground survey **Surveyor** Dean Kanipe (2004)
Survey Date 2004-09-15 **First Observation Date** 1996 **Last Observation Date** 2004-09-15
Data Sensitive Element N **Comments**
Monitoring Needs Comments
Research Needs Comments
Additional Inventory Needed N **Comments**

Description

General Description Most of the population is in a cleared powerline, but some remnants of a basic oak-hickory forest remain. The powerline supports a large population of Andropogon gerardii, along with Physostegia virginiana, Sorghastrum nutans, Tripsacum dactyloides, Schizachyrium scoparium, Aristida oligantha, Vernonia glauca, Eryngium yuccifolium, Silphium compositum, Marshallia sp., Spiranthes gracilis, Liatris spicata and L. scariosa. The basic oak-hickory forest includes Quercus stellata, Chionanthus virginicus, Cercis canadensis, Carya spp., and Cragaegus sp.

Min. Elevation 350 feet **Max. Elevation** 350 feet
EO Observed Area acres
Rep Accuracy **Rep Confidence** 3 **Separation Comments**

Ownership/Protection

Type
Private organization
Name
Research Triangle Foundation of North Carolina
Owner Comments
Management Comments The site would benefit from periodic prescribed fire or dormant-season mowing.
Protection Comments This site is threatened by road development (a possible Alexander Drive extension to connect to I-540) (Kanipe 2004).

Documentation/Version

Reference Code **Citation**

Specimen
Digital photos of this species and others at the site are stored in the NHP server in the Photos file.

Town of Morrisville
Planning Department
P.O. Box 166
Morrisville, North Carolina 27560

Phone: (919) 463-6194
Fax: (919) 468-6011

January 12, 2006

Ms. Gail Grimes, PE
North Carolina Turnpike Authority
1501 Mail Service Center
Raleigh, North Carolina 27699-1501

Dear Ms. Grimes:

Thank you for the opportunity to provide initial input on the Triangle Parkway as part of the scoping process that the N.C. Turnpike Authority is currently conducting for the project. The Town of Morrisville has a strong interest in this initiative because the project study corridor and potential roadway alignment include part of the Town's jurisdiction, and because this transportation infrastructure investment has the potential to impact and address important transportation and other issues important to our community.

In conducting an initial internal scoping of the project, Town staff have identified the following issues for consideration in the formal N.C. Turnpike Authority scoping process:

1) The project study area as currently defined does not include McCrimmon Parkway or Town Hall Drive. Yet, a possible connection to these roads could help provide an important linkage to Davis Drive, Church Street, Chapel Hill Road (NC 54), and other roads that are currently high levels of traffic. The Parkway project scoping should include an analysis of the impacts on the area transportation system with and without connection to McCrimmon Parkway and Town Hall Drive.

2) At the same time that a connection to McCrimmon Parkway and Town Hall Drive should be studied, careful attention should be paid to how to make an appropriate transition from a limited access regional parkway to community thoroughfares and collectors. In particular, an appropriate transition design should be developed for the segment of the Parkway from I-540 to McCrimmon Parkway.

3) Any design for the above transition segment should take into consideration pedestrian and bicycle accommodations to help provide connections to the local and regional pedestrian and bicycle system.

4) Designs for the Triangle Parkway should include consideration of High Occupancy Vehicle (HOV) lanes to promote public transit and carpooling options as part of a larger network in the region.

5) The current study area includes part of several existing and approved residential subdivisions in Morrisville, including Kitts Creek, Providence Place, and Shiloh Grove. As a result, special consideration should be given to mitigating community impacts of the Parkway, including noise attenuation and mitigation of visual impacts. Providing adequate landscaping and buffering designs will be important. In addition, off-premise outdoor advertising should be prohibited throughout the corridor.

6) The project scoping should identify improvements needed to surrounding transportation facilities as a result of the construction of the Parkway.

7) To help protect important existing transportation connections in the study area, designs for the Parkway should include accommodations such as underpasses and culverts for transportation facilities such as roads, sidewalks, and greenways that cross the Triangle Parkway right of way. The Town of Morrisville has an existing commitment from NCDOT to reconnect Kitts Creek Road across the Parkway ROW as part of the Parkway design. A similar connection should also be studied for the Shiloh Grove subdivision.

Thanks again for the opportunity to provide initial comments. We look forward to continuing to participate in the project scoping process.

Sincerely,

Ben Hitchings

Ben Hitchings, AICP
Planning Director

CC: John Whitson, Town Manager, Town of Morrsville
Tim Gauss, Director of Development Services, Town of Morrisville
Blake Mills, Town Engineer, Town of Morrisville

North Carolina
Department of Environment ar
Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

North Carolina
Division of Forest Resources

Stanford M. Adams, Director

January 17, 2006, 2005

MEMORANDUM

TO: Melba McGee, Office of Legislative Affairs

FROM: Michael Mann, NC Division of Forest Resources

SUBJECT: Start of Study and Formal Scoping Meeting Notification Triangle Parkway – From I-40 to I-540 (TIP Project Number U-4763).

PROJECT #: 06-0204

The North Carolina Division of Forest Resources has reviewed the referenced scoping document and offers the following comments that should be addressed in the EA concerning impacts to woodlands.

1. In order to evaluate construction impact, list, by timber type, the total forest land acreage that is removed or taken out of forest production as a result of the project. Fragmentation of woodlots into small sections can make forest management difficult and should be avoided where possible. If no impacts will occur please state so in the document.

2. Efforts should be made to avoid or minimize impact to forest resources. Areas to avoid include unique or unusual ecosystems, highly productive managed woodlands and wetlands. Additionally, efforts should be made to align corridors to minimize impacts to woodlands in the following order of priority:
   - Managed, high site index woodland
   - Productive forested woodlands
   - Managed, lower site index woodlands
   - Unique forest ecosystems
   - Unmanaged, fully stocked woodlands
   - Unmanaged, cutover woodlands
   - Urban woodlands

1616 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919 – 733-2162 ext. 255 \ FAX: 919 – 715-5247 \ Internet: www.dfr.state.nc.us

3. The EA should include a summary of the potential productivity of the forest stands affected by the proposed project. Potential productivity is quantified by the soil series, and is found in the USDA Soil Survey for the county involved.

4. The provisions the contractor will take to utilize the merchantable timber removed during construction. Emphasis should be on selling all wood products. However, if the wood products cannot be sold then efforts should be made to haul off the material or turn it into mulch with a tub grinder. This practice will minimize the need for debris burning, and the risk of escaped fires and smoke management problems to residences, highways, schools, and towns.

5. If woodland burning is needed, the contractor must comply with the laws and regulations of open burning as covered under G.S. 113-60.21 through G.S. 113-60.31. Durham and Wake Counties are classified as non-high hazard counties, and G.S. 113-60.24 requiring a regular burning permit applies.

6. The provisions that the contractor will take to prevent erosion and damage to forestland outside the right-of-way. Trees, particularly the root system, can be permanently damaged by heavy equipment. Efforts should be to avoid skinning of the tree trunk, compacting the soil, adding layers of fill, exposing the root system, or spilling petroleum or other substances.

7. The impact upon any existing greenways in the proposed project area should be addressed.

We appreciate the opportunity to comment on the proposed project, and encourage the impact on our forestland be considered during the planning process.

cc: Barry New

North Carolina Wildlife Resources Commission

MEMORANDUM Richard B. Hamilton, Executive Director

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: January 17, 2006

SUBJECT: Response to the start of study notification from the N. C. Turnpike Authority regarding fish and wildlife concerns for the proposed Triangle Parkway, from I-40 to I-540 in Durham and Wake Counties, North Carolina. TIP No. U-4763, SCH Project No. 06-0204.

This memorandum responds to a request from Gail Grimes of the N. C. Turnpike Authority for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. Biologists on the staff of the N. C. Wildlife Resources Commission (NCWRC) have reviewed the proposed improvements. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

After review of the project study area it appears the majority of impacts to natural resources will involve stream impacts. This project is located in Triassic soils, stream relocations have been found to be problematic in these soils particularly when coupled with urban development and right of way limitations. We recommend the Turnpike Authority minimize and avoid these impacts where practicable due to the difficulty in establishing stable stream relocations in urban settings within the Triassic basin. We have no further specific concerns regarding this project. However, to help facilitate document preparation and the review process, our general informational needs are outlined below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. Potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with:

The Natural Heritage Program

N. C. Division of Parks and Recreation
1615 Mail Service Center
Raleigh, N. C. 27699-1615
(919) 733-7795
WWW.ncsparks.net/nhp

and,

NCDA Plant Conservation Program
P. O. Box 27647
Raleigh, N. C. 27611
(919) 733-3610

2. Description of any streams or wetlands affected by the project. The need for channelizing or relocating portions of streams crossed and the extent of such activities.

3. Cover type maps showing wetland acreages impacted by the project. Wetland acreages should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (COE). If the COE is not consulted, the person delineating wetlands should be identified and criteria listed.

4. Cover type maps showing acreages of upland wildlife habitat impacted by the proposed project. Potential borrow sites should be included.

5. The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).

6. Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.

7. A cumulative impact assessment section which analyzes the environmental effects of highway construction and quantifies the contribution of this individual project to environmental degradation.

8. A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the improved road access.

9. If construction of this facility is to be coordinated with other state, municipal, or private development projects, a description of these projects should be included in the environmental document, and all project sponsors should be identified.

Thank you for the opportunity to provide input in the early planning stages for this project. If we can further assist your office, please contact me at (919) 528-9886.

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

January 18, 2006

MEMORANDUM

To: Melba McGee

Through: John Hennessy

From: Nicole Thomson

Subject: Comments on the proposed Triangle Parkway from I-40 to I-540, Durham and Wake Counties, TIP U-4763.

This office has reviewed the referenced document. The Division of Water Quality (DWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands and streams. The DWQ offers the following comments based on review of the aforementioned document:

A) It is not clear to the DWQ how the Turnpike Authority projects will be handled. In the absence of putting this project into Section 404/NEPA Merger, the NCTA is respectfully reminded that a pre-application process highly recommended prior to applying for a 401 Water Quality Certification.

B) Is a non-toll road alternative going to be considered along with the build/no build alternatives? It is not clear to DWQ what process will be followed should a non-toll road be selected for this project.

C) Prior to the issuance of a 401 Water Quality Certification, the NCTA will need to provide information that includes, but is not limited to, existing traffic and future no-build average daily traffic, roadway geometric deficiencies and accident history, transportation plans, land use plans, project history and background information, impacts to the natural and human environment as well as anticipated project costs.

D) It is not clear if the proposed study corridor is wide enough to encompass all regional data necessary to justify a new location road, including existing I-40 and the future I-540. Additionally, will the project study corridor be large enough to allow a full range of alternatives to be discussed?

E) What is the proposed construction schedule for I-540 in this area? Will the section that the Triangle Parkway proposes to tie into be completed in advance of the proposed project?

F) The document does not present any mapping that shows the location of wetlands, streams and riparian buffers. In addition, the document does not give any specified amount of anticipated impacts to wetlands, streams or riparian buffers. Until the DWQ has a map that clearly displays all the wetlands, streams, other surface waters and riparian buffers located in the project, with the proposed project superimposed onto those resources, we cannot agree that appropriate avoidance and minimization has occurred for this project. As such, issuance of the 401 Water Quality Certification for this project could be delayed until the information is provided to the DWQ for review, and we are convinced that all appropriate avoidance and minimization has occurred for this project.

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: http://h2o.enr.state.nc.us/ncwetlands

G) After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCTA is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. Should the impacts to jurisdictional wetlands exceed 1.0 acres, mitigation may be required in accordance with NCDWQ Wetland Rules {15A NCAC 2H.0506(h)(2)}.

H) In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(b)(6)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506 (h)(3)}, the NC Ecosystem Enhancement Program may be available for use as stream mitigation.

I) As part of the 401 Water Quality Certification Application, NCTA is respectfully reminded to include specifics for both onsite and offsite mitigation plans.

J) Future documentation, including the 401 Water Quality Certification Application, should include an itemized listing of the proposed wetland, stream and riparian buffer impacts with corresponding mapping.

K) Where streams must be crossed, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, NCTA should not install the bridge bents in the creek, to the maximum extent practicable.

L) Sediment and erosion control measures should not be placed in wetlands.

M) Sedimentation and erosion control measures sufficient to protect water resources must be implemented prior to any ground disturbing activities. Structures should be *maintained regularly*, especially following rainfall events.

N) Borrow/waste areas should avoid wetlands to the maximum extent practicable. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.

O) Bridge deck drains should not discharge directly into the stream; stormwater should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to NCDOT Best Management Practices for the Protection of Surface Waters.

P) The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater should not be permitted to discharge directly into streams or surface waters.

Q) Bare soil should be stabilized through vegetation or other means as quickly as feasible to prevent sedimentation of water resources.

R) All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.

S) Live concrete should not be allowed to contact the water in or entering into the stream. Concrete is mostly made up of lime (calcium carbonate) and when in a dry or wet state (not hardened) calcium carbonate is very soluble in water and has a pH of approximately 12. In an unhardened state concrete or cement will change the pH of fresh water to very basic and will cause fish and other macroinvertebrate kills.

T) If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to re-vegetate naturally and minimizes disturbed soil.

U) NCTA is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

V) Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

The NCDWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Nicole Thomson at (919) 715-3415.

cc: Mr. Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Mr. Chris Militscher, US EPA Region IV
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
NCDWQ Raleigh Regional Office
Central Files
File Copy

C:\Correspondence\2006 TA Projects\Start of Study for Triangle Parkway.doc

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

Project Number
06-0204
County
Durham/Wake

Inter-Agency Project Review Response

Project Name **NC Turnpike Authority** Type of Project **Project development for the proposed Triangle Parkway in Durham & Wake counties.**

☐ The applicant should be advised that plans and specifications for all water system improvements must be approved by the Division of Environmental Health prior to the award of a contract or the initiation of construction (as required by 15A NCAC 18C .0300et. seq.). For information, contact the Public Water Supply Section, (919) 733-2321.

☐ This project will be classified as a non-community public water supply and must comply with state and federal drinking water monitoring requirements. For more information the applicant should contact the Public Water Supply Section, (919) 733-2321.

☐ If this project is constructed as proposed, we will recommend closure of _____ feet of adjacent waters to the harvest of shellfish. For information regarding the shellfish sanitation program, the applicant should contact the Shellfish Sanitation Section at (252) 726-6827.

☐ The soil disposal area(s) proposed for this project may produce a mosquito breeding problem. For information concerning appropriate mosquito control measures, the applicant should contact the Public Health Pest Management Section at (919) 733-6407.

☐ The applicant should be advised that prior to the removal or demolition of dilapidated structures, a extensive rodent control program may be necessary in order to prevent the migration of the rodents to adjacent areas. For information concerning rodent control, contact the local health department or the Public Health Pest Management Section at (919) 733-6407.

☐ The applicant should be advised to contact the local health department regarding their requirements for septic tank installations (as required under 15A NCAC 18A. 1900 et. sep.). For information concerning septic tank and other on-site waste disposal methods, contact the On-Site Wastewater Section at (919) 733-2895.

☐ The applicant should be advised to contact the local health department regarding the sanitary facilities required for this project.

☐ If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Environmental Health, Public Water Supply Section, Technical Services Branch, 1634 Mail Service Center, Raleigh, North Carolina 27699-1634, (919) 733-2321.

☒ For Regional and Central Office comments, see the reverse side of this form.

Jim McRight	PWSS	01/20/06
Reviewer	Section/Branch	Date

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

JAN 3 1 2006

Project Number **06-0204**

County **Durham/Wake**

Inter-Agency Project Review Response

Project Name **NC Turnpike Authority** Type of Project **Project development for the proposed Triangle Parkway in Durham & Wake counties.**

Comments provided by:

☐ Regional Program Person

☒ Regional Supervisor for Public Water Supply Section

☐ Central Office program person

Name **Michael Douglas-Raleigh RO** Date **01/20/06**

Telephone number: 919-791-4297

Program within Division of Environmental Health:

☑ Public Water Supply

☐ Other, Name of Program: _____

RECEIVED
JAN 24 2006
DENR RALEIGH REGIONAL OFFICE

Response (check all applicable):

☐ No objection to project as proposed

☐ No comment

☑ Insufficient information to complete review

☐ Comments attached

☐ See comments below

Return to:
Public Water Supply Section
Environmental Review Coordinator
for the
Division of Environmental Health

DURHAM PUBLIC SCHOOLS
Office of Operational Services

January 24, 2006

Mr. Steven M. Taynton
Section Chief
School Planning
Public Schools of North Carolina
6319 Mail Service Center
Raleigh, North Carolina 27699-6319

Re: National Environmental Policy Act
NCTA Proposed Triangle Parkway

Dear Mr. Taynton:

On behalf of Durham Public Schools (DPS) and the office of Dr. Ann Denlinger, Superintendent, we see no conflicts in the proposed Triangle Parkway project at this time.

Thank you for providing the necessary information to DPS so we can be aware of what is being proposed in our county.

Sincerely,

Robert L. Sands, Jr. REFP

c: Hugh Osteen

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

February 15, 2006

MEMORANDUM

TO: Gail Grimes
NC Turnpike Authority

FROM: Peter Sandbeck RSE for PeterSandbeck

SUBJECT: Scoping, Extension of Triangle Parkway from I-40 to I-540, U-4763, Durham and Wake Counties, CH 05-2936

Thank you for your letter of December 16, 2005, concerning the above project.

We have conducted a review of the project and are aware of no historic resources that would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Mary Pope Furr, NCDOT
Matt Wilkerson, NCDOT

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

Rec'd 12/29/05

STATE NUMBER: 06-E-0000-0204 F02
DATE RECEIVED: 12/22/2005
AGENCY RESPONSE: 01/17/2006
REVIEW CLOSED: 01/22/2006

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORD
DEPT OF CUL RESOURCES
ARCHIVES-HISTORY BLDG - MSC 4617
RALEIGH NC

CHOS-2936
NC DAH 1/11/06
NC 2/13/06
1/17/05

REVIEW DISTRIBUTION
CC&PS - DEM, NFIP
DENR LEGISLATIVE AFFAIRS
DEPT OF AGRICULTURE
DEPT OF CUL RESOURCES
DEPT OF TRANSPORTATION
TRIANGLE J COG

FEB 2006 RECEIVED Secretary's Office DCR

PROJECT INFORMATION
APPLICANT: State of N.C. Turnpike Authority
TYPE: National Environmental Policy Act
ERD: Scoping
DESC: Proposed project to extend the Triangle Parkway from I-40 (in Durham County) to I-540 (in Wake County); TIP No. U-4763.

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:

☒ NO COMMENT

☐ COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Early
MPM for

DATE: 2/15/06

RECEIVED
JAN 13 2006

NCDENR
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Project Review Coordinator

SUBJECT: 06-0204 Proposed Triangle Parkway in Durham and Wake counties

DATE: February 28, 2006

The attached comments were received by this office after the response due date. These comments should be forwarded to the applicant and made a part of our previous comment package.

Thank you for the opportunity to respond.

Attachment

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

North Carolina
Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

March 2, 2006

Ms. Gail Grimes
State of N.C. Turnpike Authority
1501 Mail Service Center
Raleigh, NC 27699-1548

RECEIVED

Dear Ms. Grimes:

Re: SCH File # 06-E-0000-0204; Scoping; Proposed project to extend the Triangle Parkway from I-40 (in Durham County) to I-540 (in Wake County); TIP No. U-4763.

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are **additional** comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Chrys Baggett/SJG

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

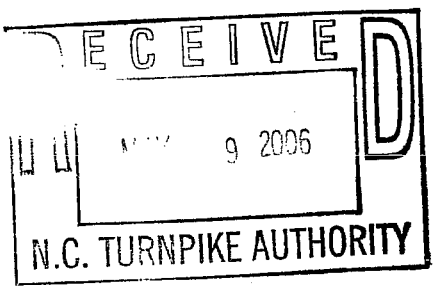
cc: Region J

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

Triangle Transit Authority



May 5, 2006

David W. Joyner, Executive Director
North Carolina Turnpike Authority
1501 Mail Service Center
Raleigh, North Carolina 27699-1501

Received
MAY 11 2006

RE: Triangle Parkway (TIP: U-4763)
Western Wake Freeway (TIP: R-2635)
Durham and Wake counties

Dear Mr. Joyner:

I enjoyed meeting you and hearing your comments at the RTA meeting last month.

The Triangle Transit Authority is submitting comments as part of the public input process that the N.C. Turnpike Authority is conducting for the Triangle Parkway and Western Wake Freeway projects. As you are aware, our mission is to provide regional transit services for the greater Triangle region through the provision of regional bus service, coordination of vanpool and carpool services, and through the planning and development of major transit infrastructure investments. We have a shared interest in providing alternative forms and methods for funding transportation infrastructure for the region.

TTA is particularly interested in the Triangle Parkway and Western Wake Freeway projects because of their relative proximity to Phase I of the Regional Rail System. We believe that both of these projects share residential and employment markets with TTA bus, vanpool and future Regional Rail customers. We hope that the Turnpike Authority will address the following transit issues in the financial planning, environmental assessment and design of the proposed Triangle Parkway and Western Wake Freeway projects.

1. The designs should include provisions for transit and high occupancy vehicle infrastructure. We hope that the Turnpike Authority will design appropriate HOV infrastructure that accommodates TTA and other public transportation vehicles. It is anticipated that a high percentage of the usage of the Triangle Parkway will be for work-related trips from southwest Wake and southeast Durham Counties to the Research Triangle Park. The Western Wake Freeway will serve markets between western Wake County and north Raleigh, and long-distance travelers from counties south of the Triangle Region to Durham and western Wake

68 TW Alexander Drive, Suite 1000 ▲ PO Box 13787 ▲ Research Triangle Park ▲ North Carolina 27709
Main: (919) 549-9999 ▲ Internet: www.rideTTA.org ▲ Fax: (919) 485-7441

counties. These work trips will provide an opportunity for shared rides for users having common trip origins and destinations.

2. We also believe that a fare structure that provides incentives for individuals to utilize public transportation and other shared rides will support regional efforts to provide transportation infrastructure that is environmentally sound. We hope that the Turnpike Authority will include in its financial analysis of the Triangle Parkway and Western Wake Freeway projects an assessment of and provisions for reductions or elimination of fares for public transit and other high occupancy vehicles.

Thank you for the opportunity to comment upon the Parkway project and the scoping issues. Please contact John Claflin, TTA General Manager, if you have any questions or require any information. Thank you for the opportunity to participate in the public comment process.

Sincerely,

M. Carter Worthy

M. Carter Worthy, Chair
Board of Trustees

c TTA Board of Trustees
John Claflin, TTA General Manager
Greg Northcutt, TTA Planning & Engineering
Gail Grimes, PE, North Carolina Turnpike Authority

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 5, 2006

Memorandum

To: Ms. Gail Grimes, PE
North Carolina Turnpike Authority

From: James B. Harris, PE
Engineering Manager
NCDOT Rail Division

State Project: U-4763
F/A Project: N/A
County: Durham and Wake
Description: Triangle Parkway – From I-40 to I-540

Subject: Start of Study

The NCDOT Rail Division is in receipt of your information request letter on the above subject highway projects.

After review of the project letter and location of railroad tracks within the project study area it has been determined that no rail interaction is anticipated on this project.

Thank you for keeping the Rail Division involved in the early project planning stages. Please call Brad Smythe, Project Engineer, at 715-8741 if you have any additional questions.

JBH/bds

Cc: file

MAILING ADDRESS:
RAIL DIVISION
ENGINEERING & SAFETY BRANCH
1556 MSC
RALEIGH NC 27699-1556

TELEPHONE: 919-715-8803
FAX: 919-715-8804

WEBSITE: www.bytrain.org

LOCATION:
CAPITAL YARD
862 CAPITAL BOULEVARD
RALEIGH, NC 27603

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

DIVISION OF HIGHWAYS
Right of Way Department
815 Stadium Drive
Durham, North Carolina, 27704
Telephone: (919) 560-6847
Fax: (919) 560-3204

LYNDO TIPPETT
SECRETARY

January 12, 2006

MEMORANDUM TO: Ms. Gail Grimes, PE

FROM: Leonard G. Scarborough
Division Right of Way Agent – Division 5

SUBJECT: Scoping Meeting
Triangle Parkway – I-40 to I-540

Division 5 Right of Way is responding to your request for information for the above proposal. The toll road is programmed for Planning and Environmental study only in the 2006 to 2012 Transportation Improvement Program.

This particular area falls within the Research Triangle Park. Public utilities are currently provided by both counties to this location. Prices for land owned by the Research Triangle Foundation of North Carolina are set. Land prices for individual property owners have currently increased 100 percent within the past two (2) years.

The corridor from I-40 (Durham County) to I-540 (Wake County) would provide an additional north-south corridor for RTP commuters. This would reduce congestion, which would further reduce right of way costs and highway maintenance for the triangle area.

LGS:tsg

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 30, 2006

TIP Project: U-4763
County: Wake / Durham
Description: Triangle Parkway – From I-40 to I-540

MEMORANDUM

TO: Gail Grimes, P.E., Preliminary Engineering Director
North Carolina Turnpike Authority

FROM: Jeffrey M. Garland, P.E., Plan Review Project Design Engineer
Congestion Management Section

SUBJECT: U-4763 recommendation

As a follow up to our comments at the January 13, 2006 Triangle Parkway (TIP# U-4763) scoping meeting, the Congestion Management and Signing Unit of the Transportation Engineering and Safety Systems Branch of the NCDOT recommends that an Interchange Modification Report (IMR) for I-40 and an Interchange Justification Report (IJR) for I-540 (this assumes this section of I-540 will be done before the Parkway) should be performed by the Turnpike Authority or their consultant(s) for submittal to the Federal Highway Administration (FHWA) for their approval on this project. Ideally, work on the IMR and IJR would begin shortly and coincide with the October, 2006 target completion date scheduled for the Environmental Analysis (EA) document. We recommend scoping meetings with FHWA and Congestion Management be held to determine the required limits and design year of the studies.

If you have any questions, please don't hesitate to contact me at (919) 250-4151 or at jgarland@dot.state.nc.us.

Thanks for all that you do.

JMG

cc: J. A. Bissett, Jr., P.E.
J. K. Lacy, P.E.
D. M. Barbour, P.E.
J. G. Nance, P.E.
K. L. Becker, P.E.
T. M. Hopkins, P.E. (Attention: A. D. Wyatt, P.E., B. K. Mayhew, P.E.)
L. L. Cove, P.E. (Attention: J. H. Dunlop, P.E.)

MAILING ADDRESS:
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH
1592 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1592

TELEPHONE: 919-250-4151
FAX: 919-250-4195
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH, NORTH CAROLINA 27610

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

May 18, 2007

Ms. Jennifer Harris, PE
Staff Engineer
NCTA 5400 Glenwood Avenue
Suite 400
Raleigh, NC, 27612

SUBJECT: NCTA Project: U-4763 (Triangle Parkway)

Dear Ms. Harris:

The NCDOT Roadway Design Unit, Congestion Management Section and Project Development & Environmental Analysis Branch have reviewed the information and analyses relative to the Triangle Parkway submitted by the North Carolina Turnpike Authority on May 11, 2007. Included were additional traffic analyses, conceptual/functional designs and conceptual cost estimates associated with providing LOS D on Triangle Parkway and all associated freeway connections. Thank you for promptly addressing our request to show the necessary design to achieve LOS D in the design year.

Based on our review, we have several comments:

- At the Durham Freeway and I-40 interchange, the planning document will need to include impacts related to the construction of the I-40 flyover and the associated laneage required to achieve LOS D. We are recommending the construction of the flyover and associated laneage improvements within the subject project.
- Also at the Durham Freeway and I-40 interchange, the median lane that runs northbound along Durham Freeway should be extended beyond the East Cornwallis Road interchange to lessen the bottleneck situation created when both the median and the outside lanes drop.
- At the Northern Wake Interchange, the associated laneage is recommended to ensure the turnpike facility operates at LOS D.
- Along Triangle Parkway, 8 lanes will be needed to achieve an acceptable LOS once McCrimmons Parkway project is constructed. Otherwise, 6 lanes will be acceptable.

Thanks again for the opportunity to offer comments so that we can work together to create a safe and successful turnpike facility. If you have questions, please contact me at 250-4016.

Sincerely,

Dewayne L. Sykes

Dewayne L. Sykes, PE
Assistant State Roadway Design Engineer

DLS/
cc: Steve DeWitt, PE - NCTA
Deborah Barbour, PE
Art McMillan, PE
Jay Bennett, PE
BenJetta Johnson, PE
Missy Dickens, PE
George Hoops, PE – FHWA
Joe Geigle, PE – FHWA
Anne Redmond, EI- NCTA GEC
Adin McCann, PE - NCTA GEC

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN UNIT
1582 MAIL SERVICE CENTER
RALEIGH NC 27699-1582

TELEPHONE: 919-250-4016
FAX: 919-250-4036
WEBSITE: WWW.NCDOT.ORG/DOH

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC

MULKEY
ENGINEERS & CONSULTANTS

MEMORANDUM

TO: Meeting Participants

FROM: Liz Kovasckitz, Mulkey Engineers and Consultants

DATE: January 30, 2006

SUBJECT: Triangle Parkway (TIP No.U-4763) Agency Scoping Meeting Minutes

A Triangle Parkway project scoping meeting was held on Friday, January 13, 2006 at 10:00 a.m. in the NCDOT Transportation Board Room. Meeting participants are noted below:

MEETING PARTICIPANTS

Mark Ahrendsen	Durham-Chapel Hill-Carrboro MPO
Jay Bissett	Mulkey
Wally Bowman	NCDOT, Division 5
J. Derek Bradner	NCDOT, Location & Surveys Unit
Cindy Carr	Mulkey
Lori Cove	NCDOT, Traffic Engineering & Safety Systems Branch
Craig Deal	HNTB
Jeff Garland	NCDOT, Traffic Engineering & Safety Systems Branch
Gail Grimes	NCTA
David Harris	NCDOT, Roadside Environmental Unit
Ben Hitchings	Town of Morrisville
Pate Hodges	NCDOT, Right of Way Branch
Bill Hood	Mulkey
Ed Johnson	Capitol Area MPO
K. J. Kim	NCDOT, Geotechnical Engineering Unit
Liz Kovasckitz	Mulkey
Sarah McBride	NC Department of Cultural Resources - SHPO
Adin McCann	HNTB
Chris Militscher	US Environmental Protection Agency – Raleigh Office
Yulonda Moore	NCDOT, Right of Way Branch
Jon Nance	NCDOT, Division 5
Susan Parker	Town of Cary
T. N. Parrott	NCDOT, Division 5
Anne Redmond	HNTB
Sarah Smith	NCDOT, Transportation Planning Branch
Mark Staley	NCDOT, Roadside Environmental Unit
Dave Timpy	US Army Corps of Engineers
Layna Thrush	EcoScience
Scott Walston	NCDOT, Transportation Planning Branch
David Wasserman	NCDOT, Transportation Planning Branch
Barbara Weigel	Triangle Transit Authority
Travis Wilson	NC Wildlife Resources Commission

Project Overview

Jay Bissett opened the meeting and introductions were made around the room. Information packets, which included an agenda, project overview notes, and a project location map, were distributed. Three large aerial photographs of the project area were available for reference on the conference table and at the front of the room. The aerial photographs included mapping of environmental features, the preliminary project study area and property information.

Mr. Bissett described the proposed Triangle Parkway project. He noted that the project has been a part of the Research Triangle Park (RTP) development plan since 1958. The study area, as shown on the aerial photograph, centers on a dedicated corridor set aside for the roadway in the RTP Master Plan. The Triangle Parkway is a new location Strategic Highway Corridor project in Wake and Durham Counties and the RTP. The project is approximately 4.5 miles long, connecting McCrimmon Parkway (SR 1625) and I-40 at the NC 147 interchange. Mr. Bissett reviewed the NCDOT TIP projects in the vicinity of the proposed Triangle Parkway. He noted that the primary purposes of proposed action are to relieve traffic congestion on I-40, improve commuter traffic through RTP, and support economic development in the Park. Mr. Bissett reviewed existing conditions and preliminary traffic volumes for area roadways. He noted that the preliminary 2030 traffic volume projections were under development. Ed Johnson requested that the Metropolitan Planning Organizations (MPOs) be given an opportunity to review the traffic projections before the traffic study is finalized. Gail Grimes responded that drafts of the document can be provided to the Durham-Chapel Hill-Carrboro (DCHC) and Capitol Area (CAMPO) MPOs.

The GIS-level environmental information portrayed on the aerial photography was reviewed. Mr. Bissett stated that based on known information for the area, wetland impacts are expected to be minimal and no threatened and/or endangered species impacts are anticipated. There are also two Natural Heritage Program (NHP) sites within the study area. These sites contain species that are not federally protected. Delineations and natural systems field surveys will be conducted for the proposed project. Mr. Bissett stated that the majority of the project appears to fall within the Cape Fear basin and that potential linear stream impacts have led to discussions of on-site mitigation. Stream relocation and restoration are being evaluated. A meeting participant asked who would do the monitoring for on-site mitigation. Ms. Grimes responded that discussions on how mitigation will be handled are still underway between the North Carolina Turnpike Authority (NCTA), the Ecosystem Enhancement Program (EEP) and the NCDOT.

Mr. Bissett reviewed the project schedule as developed by the NCTA. The NCTA plans to initiate right-of-way acquisition in March 2007 and let the project for construction in February 2008. An Environmental Assessment (EA) is scheduled for completion in October 2006, followed by the Finding of No Significant Impact (FONSI) in March 2007. Barbara Weigel asked if it has been determined that an EA is sufficient. Mr. Bissett noted that based on public support, indications that impacts would be minimal, and discussions with the NCTA and FHWA, the proposed project will proceed as an EA unless public feedback or environmental studies indicate an expanded study is necessary. Sarah McBride asked if public meetings would be held. Mr. Bissett responded that the project will move forward as a typical National Environmental Policy Act (NEPA) study and public information meetings are anticipated in March. Ms. McBride asked if the proposed project included state or federal funds. Ms. Grimes responded that preliminary engineering studies include federal aid.

Mr. Bissett noted that sidewalks and bicycle lanes are not planned for the proposed freeway facility. Mr. Bissett concluded his presentation and requested comments from meeting participants.

Agency Comments and Discussion

Travis Wilson questioned the feasibility of stream mitigation at the northern end of the project. He noted that Triassic Basin streams are commonly incised and hard to restore, with results often being unstable. Mr. Wilson mentioned that stability problems have occurred under similar conditions on sections of I-540 and that it would be beneficial to try and avoid any linear impacts. Cindy Carr stated that although it was still too early in the process to determine, there may be enough bedrock present to stabilize the stream. She indicated that the bedrock was very close to the surface and provided grade control for the stream channel. Ms. Carr noted that there was a fairly flat, wide floodplain associated with the stream. She also noted that beaver impoundments in the project vicinity appear to be causing swamping effects. In addition, Cindy noted that there was an existing sewer line extending parallel to the stream.

Questions regarding provisions to relocate Natural Heritage Program (NHP) species and the presence of historical or archaeological sites were posed. Mr. Bissett indicated that NHP species relocation had not been evaluated yet. Ms. McBride indicated that the project had been cleared for archaeology; however, historic architecture has not been reviewed.

Lori Cove inquired if the current scope included the preparation of an Interchange Modification Report (IMR) for I-40. This report will require federal approval. She noted that based on the current schedule, the preparation of the IMR should be concurrent with the environmental document. To approve the IMR, the FHWA will need a traffic forecast that includes I-40.

Ms. McBride asked if there were plans for beautification given the inclusion of "parkway" in the name of the proposed project. It was noted that the intention of the project is to serve as a freeway-to-freeway connector.

Chris Militscher asked if the FHWA criteria for noise and the NCDOT noise abatement guidelines would be followed. He further inquired if the EA will address air quality conformity. The response to both questions was "yes."

Ms. McBride asked if permits would be required for the project. Mr. Bissett indicated that Section 404/401 permits would likely be required. Dave Timpy noted that the Corps representative for the project was not at the meeting. However, Mr. Timpy indicated that a permit will be required.

Ms. Weigel asked about the potential for relocations. Mr. Bissett stated that if the proposed project was built in the RTP dedicated corridor, one building that was formerly used by the Center for Disease Control would be impacted. The building is vacant due to issues related to "sick building syndrome."

Jon Nance stated the study should take into account ramp movements at NC 147. He indicated that the project should be coordinated with the East End Connector (U-71) from a traffic perspective; the East End Connector could affect traffic patterns on Triangle Parkway.

Mr. Bissett mentioned that, in combination with other area projects, Triangle Parkway will help create a direct route between I-85 and I-40.

Jeff Garland asked if the project team was looking at logical termini. Mr. Bissett responded that the NCTA is in discussions with the FHWA to make sure there is agreement on logical termini. Studies will include an analysis of impacts related to traffic and level of service.

A question was asked regarding when base plan mapping and survey information would be requested. Mr. Bissett noted that a request was recently submitted and the information would be needed prior to the citizens informational workshops. Ms. Grimes noted that most of the survey work is done. The NCTA is coordinating with the NCDOT Photogrammetry and Location and Survey Units. As long as it will not affect the NCDOT TIP or NCTA project schedules, the NCDOT will complete the aerial photography work for the project. McKim and Creed will provide the control survey and Avioimage will develop the mapping.

Mr. Johnson noted that the Triangle Parkway project was number six on CAMPO's regional priority list. The forecasted volume for Triangle Parkway based on the CAMPO model indicates that there will be approximately 200,000 vehicles per day (vpd) in 2030, which would require an eight-lane facility. Mr. Johnson noted that there are land service access requirements. This is a concern when considering how interchanges will be provided with adequate level of service and how they will affect local circulation. Mr. Johnson noted that interchanges at both Hopson Road and Davis Drive have been part of the planning for access to RTP for a long time, though he has been told this violates the "two-mile rule" for interchanges. The East End Connector is the number one priority for the DCHC MPO. Mr. Johnson agreed the Triangle Parkway is part of an important corridor, but was concerned how tolls would be handled and what their effects might be on the capacity of the y-lines. Mr. Bissett noted that one of the Triangle Parkway alternatives will be a toll facility. Ms. Grimes stated that HNTB is preparing traffic projections for a free facility. Wilbur Smith Associates will conduct a sensitivity analysis for the tolls and prepare a traffic revenue forecast. The resulting two traffic components will be brought together in the NEPA document. The studies will provide information on the amount of revenue generated by a toll road option and the number of cars not using the toll roadway that will reload existing facilities. Mr. Johnson inquired when the studies would be complete. Ms. Grimes anticipated the Wilbur Smith study for the Triangle Parkway project the week of January 16th. The studies will be made available to the MPOs.

Mark Ahrendsen asked if there will be one toll option or different toll options and if there will be an option with tolling on other facilities. Ms. Grimes responded that there are currently discussions related to Western Wake Freeway, I-40 HOV lanes and other projects. All of these projects will affect traffic on the surrounding roadways and impact revenue. Although there are a variety of options available when looking at a project from a tolling perspective, it is unknown at this point what specific alternatives will be evaluated. Ms. Grimes noted that the Federal Register has advertised two programs to look at tolling and value pricing, with application submittals expected by the end of January. Mr. Ahrendsen stated that if the MPO had a copy of this data it would be helpful. Ms. Grimes noted that Mulkey, HNTB, Wilbur Smith, the NCTA and the MPOs could meet for an expanded discussion of this topic.

Mr. Johnson stated that there should be future discussion of the number of lanes and the width of the median for Western Wake Freeway. A wider median may be beneficial when considering future opportunities for HOV lanes. Ms. Grimes agreed that there are many options that can be evaluated.

Ms. Weigel encouraged the inclusion of transit agencies in discussions related to policy decisions regarding who would be required to pay tolls.

It was stated that consideration should be given to bicycle and pedestrian facilities within the RTP in the vicinity of the Triangle Parkway project. Mr. Bissett noted that the Research Triangle Foundation has expressed an interest in looking at increasing bicycle and pedestrian access and that these access considerations will be factored into the analysis. Hopson Road and Davis Drive will be evaluated for opportunities to enhance bicycle and pedestrian access. Ben Hitchings stated that the Triangle J Council of Governments (COG) would be an excellent resource on this topic as they recently completed a

pedestrian-bicycle-greenway connectivity study. It was noted that high density residential development is being considered within the Park. Mr. Bissett agreed that the RTP is changing and there is an interest in increasing residential density in the area.

Mr. Ahrendsen listed additional funded projects including the East End Connector, NC 54 Widening, NC 55 Widening, Hopson Road Realignment, Louis Stephens Drive Extension, T.W. Alexander Drive improvements from NC 147 to Cornwallis Road, and a Hopson Road grade separation. Mr. Ahrendsen noted that the Purpose and Need should focus on the RTP and immediate surrounding areas. He reiterated the need to consider bicycle, pedestrian and greenway facilities. Mr. Ahrendsen noted that an interchange at I-40 and NC 147 would result in considerable changes to access at T.W. Alexander Drive. He stated that all plans to this point have been based on two interchanges: one at Hopson Road and one at Davis Drive. The DCHC MPO can provide information on recent development around NC 54, Davis Drive and Hopson Road and associated programmed infrastructure improvements.

Mr. Ahrendsen stated that the Triangle Parkway project is on the DCHC MPO priority list; however, there are several projects that are considered higher priorities. He noted that if a non-toll option is pursued, a 2007-2008 construction schedule is very aggressive. Mr. Ahrendsen indicated that without a toll option, it is unlikely the DCHC MPO would support the project because of other higher priorities that require funding. Mr. Ahrendsen stated that he would also like to meet at some point in the future to further discuss traffic forecasting for tolling options and the sensitivity analysis.

Mr. Johnson referred to Ms. Weigel's earlier statement regarding coordination with transit agencies, stating that the CAMPO would be happy to assist with the coordination of a meeting with those agencies.

Ms. Weigel noted that this project is close to the first phase of a regional transit route and major investments in a transit corridor have been made. She noted that she would be interested in seeing a discussion of how the proposed project would affect transit ridership.

Mr. Hitchings stated that the Town of Morrisville will supply the NCTA (Ms. Grimes) with a written copy of its comments. He noted that the Town's comments focused on two (2) primary categories: 1.) how the Triangle Parkway would tie in with other transportation facilities and 2.) how the Triangle Parkway would impact the community. Mr. Hitchings stated that the Town of Morrisville would like to see adequate scoping of the project, the inclusion of the area south of I-540 as a transition area, and consideration of bicycle and pedestrian mobility so that the proposed project is not a barrier to these types of facilities. The Town would like to talk further about a complimentary facility versus a toll facility in the area of McCrimmon Parkway. Ms. Grimes stated that the Triangle Parkway project originally stopped at I-540. However, the project was later extended to McCrimmon Parkway. Ms. Grimes said that the NCTA would be interested in discussing the Town's view on the extension as a complimentary facility versus a toll road. Mr. Johnson stated that the CAMPO encourages no direct access, similar to the transition area on Wade Avenue.

David Wasserman recommended including discussion of the Strategic Highway Corridor in the Purpose and Need statement.

Summary/Final Comments

Mr. Bissett thanked everyone for attending and providing their comments. He noted that Liz Kovasckitz is the primary writer for the document and she would contact individuals for follow-up discussions as the study progressed. Mr. Bissett requested that anyone who had not signed in please be sure to do so on the sheet provided at the front of the room. The meeting was adjourned.

Triangle Parkway
Agency Scoping Meeting
1:00 p.m. on Wednesday, January 25, 2006
DWQ Transportation Permitting Conference Room

In Attendance:

Eric Alsmeyer	USACE Raleigh Field Office	(919) 876-8441 ext. 23
Nikki Thomson	NCDWQ Transportation Permitting	(919) 715-3415
Rob Ridings	NCDWQ Wetlands Unit	(919) 733-9817
Brian Wrenn	NCDWQ Transportation Permitting	(919) 733-5715
John Hennessy	NCDWQ Transportation Permitting	(919) 733-5294
Adin McCann	HNTB	(704) 372-8020
Craig Deal	HNTB	(919) 424-0439
Layna Thrush	EcoScience	(919) 828-3433
Jay Bissett	Mulkey	(919) 858-1841
Michelle Fishburne	Mulkey	(919) 858-1837
Cindy Carr	Mulkey	(919) 858-1871

Jay Bissett opened the meeting with a brief introduction of each person in attendance, followed by a description of the proposed Triangle Parkway project. An aerial project boundary map was available for review. Handouts included the January 13, 2006 scoping meeting agenda with overview notes, a project location map, and jurisdictional resources delineation figures. Following Mr. Bissett's project description overview, the floor was opened for an informal discussion of the project and for a question and answer period.

The following discussion occurred with question/answer responses:

- What type of NEPA document is being proposed? The NC Turnpike Authority (NCTA) has been in discussion with FHWA and the general agreement is that an EA would be appropriate for this project.
- What is the southern terminus of the project? There are two scenarios, which will depend on the results of the traffic analysis. Originally, the terminus was planned to be the I-540 interchange (near Davis Drive). However, there is consideration to extend it to McCrimmon Parkway in Morrisville, which will put the proposed road at a tie-in point with the new Town Hall Drive. Preliminary studies indicated extending the project to McCrimmon Parkway could be a benefit in serving more traffic and increasing the toll revenue. The traffic studies are near completion and will be reviewed as part of this project study.
- Is the corridor width sufficient under NEPA guidelines to justify having one alternative? If regional traffic data is the basis for Purpose and Need (P&N), then should the study corridor be larger? The P&N are based on several different transportation capacity models, including those being analyzed by other agencies, NGOs, and local governments. NCDOT's Division, CAMPO, Durham, Morrisville, etc. have all been looking at future transportation needs. Other alternatives will be reviewed for this project. The corridor provided today is for the purpose of information since it is included on the Research Triangle Parkway's Master Plan. This corridor is identified within the Master Plan as one of the roadways planned since

1958 to address the traffic needs for this area. Representatives for the Research Triangle Park are considering dedicating this right of way for the project.

- John Hennessy, Eric Alsmeyer, and Nikki Thomson commented that the dedication of the right of way would not enter into their regulatory decisions. They added that their agencies will need to follow the NEPA process and have documentation for other alternatives reviewed and evaluated included in their files.
- Craig Deal noted that a meeting between the NCTA and the USACE is scheduled for this Friday (January 27). After this meeting with HNTB representatives, Scott McClendon of the USACE Wilmington District office is likely to ask the NCTA to use a process similar to the Merger process currently being used under MOU with the agencies and NCDOT. Development of the P&N statement is critical for having the project proceed smoothly through the permitting process.
- A lengthy discussion between Mr. Deal, Mr. Bissett, Ms. Thomson, Mr. Hennessy, and Mr. Alsmeyer about development of the P&N statement followed this comment. The requirement to look at more than one alignment location was emphasized. Mr. Hennessy recommended looking at an alignment that used the existing T.W. Alexander roadway facility rather than new location. Several comments were made about possible alignment alternatives needing to be presented for agency review.
- It was noted that the P&N statement would be developed in accordance with NEPA guidelines. Whether the proposed parkway would be a toll-road or free-road will have influence on the P&N statement. Currently, determination of the toll/no-toll status is not possible and will need to be based on the transportation modeling analysis that is underway.
- It was noted that the legislature authorizing the Turnpike Authority to build the parkway specifically excludes placing a toll road on an existing roadway alignment. The type of facility to be built will determine the size of the roadway footprint. Estimates from the Capital Area Metropolitan Planning Organization (CAMPO) at the January 13, 2006 scoping meeting indicated that traffic could increase to 200K cars per day on a free facility by the year 2030. Ms. Thomson indicated the P&N should specify alignment locations of the toll versus no-toll facilities. WSA's preliminary traffic and revenue study have indicated that up to 70K cars per day may use a toll facility in 2030.
- An observation was made by Mr. Hennessy that if the P&N of the project is to build a toll-road, that may be sufficient to satisfy NEPA requirements. It was noted by others there are precedents in other states on the P&N being based on the need for a toll road. The agency representatives generally feel there are substantial questions about how the review process for this project will be handled.
- Brian Wrenn asked why the NCTA is hesitant to use the established Merger process for the Parkway project. Mr. Deal responded that it is partly based on the fact they are not signatory to the MOU establishing the Merger process. Mr. Deal discussed the variability of roadway funding, where both private and public dollars may be used in combination with FHWA funds. He also noted that the NCTA is concerned with the lack of predictability and accountability in the Merger process, as based on NCDOT experience. The NCTA has a goal of delivering their projects quicker than typical NCDOT projects.
- Mr. Alsmeyer asked if NCTA had an alternative for the Merger process. Mr. Deal explained that NCTA hoped to use a modified form of the process. He reiterated the NCTA's concern that under the Merger process there is no accountability for failing to reach concurrence, that there is an apparent reluctance to elevate disagreements to a

higher level, and some agencies are not bound by the Merger agreement if they decide they don't agree. Ms. Thomson noted that disagreements will occur regardless and that not following some type of review process does not avoid this issue.

- Someone asked why this project was assigned a TIP number if it was not considered a DOT project. It was noted that the Parkway was originally considered a part of the TIP, and that by State statutes must be in the TIP in order to be funded as a toll-road. Mr. Bissett further noted that if the Parkway is designed as a toll-road, the traffic and revenue analysis must show that enough traffic will use it to support it.
- Mr. Hennessy noted that if roadway bonds are tied to traffic volumes, public expenditures to meet the funding gap that are funneled through NCDOT may require the NCTA to follow DOT compliance processes. Mr. Deal commented that NCDOT is providing funds for the P&E portion of the project and the NCTA is looking at whether this requirement applies.
- Mr. Hennessy further commented that he and Mr. Deal had previously discussed using the Merger process for this project. If there is a lack of accountability, it needs to be called into review by upper management. He recommends aggressively managing the project using the Merger process, but if it doesn't work, then try something else.
- Mr. Deal noted there is a potential for the Merger process to be open-ended if not managed aggressively. He asked if it would be possible to add modifications to the Merger process that would add accountability for when there was not total agreement on an issue. Mr. Hennessy stated that there is a resolution process for these problems, but there must also be a willingness to elevate the problem to higher authorities in order to resolve the conflicts.
- Mr. Alsmeyer commented that the schedule will be moved up if funding is by bonds. He asked how the NEPA schedule would be moved up also. He noted that if an accelerated schedule is needed, it already ignores the Merger process. Mr. Bissett noted that the bond-based schedule would be 18 months to 2 years. Ms. Fishburne noted that often it isn't the Merger process that holds up the project schedule, it's having adequate manpower resources to carry out the NEPA process.
- Mr. Deal noted that strictly defining the P&N as a toll-road facility must allow for the potential to turn it back over to DOT if the study doesn't indicate adequate financial support through tolls. The issue of logical termini was discussed as it relates to roadway funding. The funding study indicates the toll road needs to extend to McCrimmon Parkway in order to generate enough revenue.
- Ms. Thomson asked if the idea of revenue generation supercedes the logical termini requirement under NEPA. Mr. Deal responded that this question has been raised but not answer as of yet. Mr. Hennessy commented that if the P&N is to build a toll-road, then funding might supercede the logical termini requirements. Mr. Bissett commented that McCrimmon Parkway may be considered logical termini since it would tie to a 4-lane divided roadway. The Parkway might be built as a transition facility between I-540 and McCrimmon Parkway, similar to the Wade Avenue extension off I-40.
- There were discussions that project studies would review the logical termini and revenue; however, it does not need to be one or the other. Just as with any evaluation, the intent is to balance the needs and impacts to "do the right thing" for the project.
- Mr. Alsmeyer asked if the roadway could be a toll-road if it used T.W.Alexander as part of the alignment since it's an existing roadway. The general discussion was that it probably could not since legislation was written to exclude use of existing roads. It was also noted that there are several business driveways located off T.W. Alexander.

- Ms. Thomson reiterated the following concerns: project coordination and review needs to follow some type of process, whether Merger or not (there's no need to recreate the wheel); needing to know whether the Parkway will be a toll or no-toll road; logical termini versus revenue/funding requirements to build the road; and the need for additional alternative considerations (and whether the study area is large enough to allow additional alignment alternatives).
- Ms. Thomson noted that conflicts will occur and that meeting as a group would be beneficial and probably less time consuming than trying to resolve potential conflicts by meeting individually. She suggested that the Merger Team could have regularly scheduled meetings for the Turnpike separate from the NCDOT pre-scheduled Merger meetings. One meeting a month, or perhaps twice a month, was discussed. Craig noted that the Turnpike Authority is currently looking into this option.
- Mr. Alsmeyer noted that jurisdictional determinations have been made for streams and/or wetlands located within most of the Research Triangle Park area. He recommended contacting the Research Triangle Foundation to request copies of any previously completed stream and/or wetland JDs that may be within the study corridor.
- Discussions continued on these key topics until the meeting adjourned at 3:00 pm.

Cindy Carr

From: Wilson, Travis W. [travis.wilson@ncwildlife.org]
Sent: Friday, March 17, 2006 9:24 AM
To: Cindy Carr
Subject: RE: Bald Eagles in RTP area of Durham/Wake Counties

There are no known eagle nests around the small lakes on the corner of Davis Drive and Development Drive.

Travis

-----Original Message-----
From: Cindy Carr [mailto:ccarr@mulkeyinc.com]
Sent: Friday, March 17, 2006 9:14 AM
To: wilsontw@mail.wildlife.state.nc.us
Subject: Bald Eagles in RTP area of Durham/Wake Counties

Travis,

I am writing the NR document for the proposed Triangle Parkway project. The NHP records indicate there are bald eagle nesting sites on Lake Crabtree in Wake County and Jordan Lake in Chatham County. There is a lake at the corner of Davis Drive and Development Drive in RTP, next to the Sony Ericsson facilities, which is adjacent to a study corridor we are investigating. Do you know if there are any bald eagle activities at this lake? Any information you can provide would be helpful, or if you can refer me to someone else who may know about this lake I would appreciate it.

Thanks.

Cindy Carr
Natural Resources Project Manager
Mulkey Engineers & Consultants
6750 Tryon Rd.
Cary, NC 27511
919-858-1871 - direct
919-851-1918 - fax

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

April 11, 2007

John F. Sullivan, III. P.E.
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

This letter is in response to your letter of April 10, 2007 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the Federal Highway Administration that the proposed construction of a multi-lane highway on new location in the Research Triangle Park area in northern Wake County and southern Durham County, North Carolina (STIP No. U-4763B) may affect, but is not likely to adversely affect the federally threatened bald eagle (*Haliaeetus leucocephalus*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to the information provided, bald eagle surveys were conducted within the project study area between January 5 and February 17, 2006. No bald eagles or bald eagle nests were observed. Based on the survey results and other available information, the Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the bald eagle. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Gary Jordan

for Pete Benjamin
Field Supervisor

cc: Eric Alsmeyer, USACE, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

April 18, 2006

Ms. Cindy Carr
Mulkey Engineers & Consultants
PO Box 33127
Raleigh, NC 27636

Subject: **Triangle Parkway in Durham and Wake Counties, U-4763** 191

On-Site Determination for Applicability to the Clean Water Act and the Neuse River Riparian Area Protection Rules (15A NCAC 2B .0233)

Dear Ms. Carr:

On March 29 and 30, 2006, Nicole Thomson conducted an on-site determination to review 65 stream features within the study area for the referenced project for applicability to the Clean Water Act and the Neuse Buffer Rules (15A NCAC 2B .0233). The Division of Water Quality (DWQ) determinations for the features are presented in Table 1. Four of the stream features were determined to be intermittent or perennial and subject to the Neuse buffer rules.

Table 1. – Stream determinations and buffer applicability for streams within the U-4763 corridor.

Stream Feature ID	Associated Figure	Stream Determination	Buffer Applicability
UT to Crabtree Creek	SA	Intermittent	Subject
UT to Crabtree Creek	SB	Intermittent (to Flag #8)	Subject
UT to Crabtree Creek	SB	Perennial (begins at Flag #8)	Subject
UT to Crabtree Creek	SC	Perennial	Subject
UT to Crabtree Creek	SD	Intermittent	N/A (Cape Fear)
UT to Kit Creek	SE	Intermittent	N/A (Cape Fear)
UT to Kit Creek	SF	Perennial	N/A (Cape Fear)
UT to Kit Creek	SFX	Intermittent	N/A (Cape Fear)
UT to Kit Creek	SG	Ephemeral	N/A (Cape Fear)
UT to Kit Creek	SGx	Intermittent	N/A (Cape Fear)
UT to Kit Creek	SH	Ephemeral	N/A (Cape Fear)
UT to Kit Creek	SI	Perennial	N/A (Cape Fear)
UT to Kit Creek	SJ	Perennial	N/A (Cape Fear)
UT to Kit Creek	SK	Perennial	N/A (Cape Fear)
UT to Kit Creek	SL	Intermittent (from headcut to WI)	N/A (Cape Fear)
UT to Kit Creek	SL	Perennial (begin at headcut)	N/A (Cape Fear)
UT to Kit Creek	SLA	Intermittent	N/A (Cape Fear)
UT to Kit Creek	SR	Intermittent (Isolated)	N/A (Cape Fear)
UT to Kit Creek	MSA	Intermittent	N/A (Cape Fear)
UT to Kit Creek	MSA	Perennial	N/A (Cape Fear)

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: http://h2o.enr.state.nc.us/ncwetlands

Table 1. continued – Stream determinations and buffer applicability for streams within the U-4763 corridor.

Stream Feature ID	Associated Figure	Stream Determination	Buffer Applicability
UT to Kit Creek	MSAA	Ephemeral	N/A (Cape Fear)
UT to Kit Creek	MSAB	Intermittent (isolated)	N/A (Cape Fear)
UT to Kit Creek	MSB	Perennial	N/A (Cape Fear)
UT to Kit Creek	MSBA	Intermittent	N/A (Cape Fear)
UT to Kit Creek	MSBB	Intermittent	N/A (Cape Fear)
UT to Kit Creek	MSC	Perennial	N/A (Cape Fear)
UT to Kit Creek	MSCA	Perennial	N/A (Cape Fear)
UT to Kit Creek	MSCBA	Intermittent	N/A (Cape Fear)
UT to Kit Creek	MSCB	Intermittent	N/A (Cape Fear)
UT to Kit Creek	MSCB	Perennial (between Flags #16-#33)	N/A (Cape Fear)
UT to Kit Creek	MSCC	Intermittent	N/A (Cape Fear)
UT to Kit Creek	MSD	Ephemeral (between Flags #1-#7)	N/A (Cape Fear)
UT to Kit Creek	MSD	Intermittent (begin at Flag #7)	N/A (Cape Fear)
UT to Kit Creek	MSDA	Intermittent	N/A (Cape Fear)
Burdens Creek	NSA	Perennial	N/A (Cape Fear)
UT to Burdens Creek	NSB	Perennial	N/A (Cape Fear)
UT to Burdens Creek	NSCA	Ephemeral (up to Flag #3)	N/A (Cape Fear)
UT to Burdens Creek	NSCA	Ephemeral (Flag #3 to confluence)	N/A (Cape Fear)
UT to Burdens Creek	NSD	Ephemeral (Flags #1-#21)	N/A (Cape Fear)
UT to Burdens Creek	NSD	Intermittent (Flags #21 -#123)	N/A (Cape Fear)
UT to Burdens Creek	NSD	Perennial (begin at Flag #123)	N/A (Cape Fear)
UT to Burdens Creek	NSE	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSE	Perennial	N/A (Cape Fear)
UT to Burdens Creek	NSF	Ephemeral (Flags #1-#12)	N/A (Cape Fear)
UT to Burdens Creek	NSF	Intermittent (Flag #12 to confluence with NSD)	N/A (Cape Fear)
UT to Burdens Creek	NSG	Ephemeral	N/A (Cape Fear)
UT to Burdens Creek	NSH	Ephemeral (between Flags #1-#7)	N/A (Cape Fear)
UT to Burdens Creek	NSH	Intermittent (between Flags #7-#25)	N/A (Cape Fear)
UT to Burdens Creek	NSHA	Ephemeral	N/A (Cape Fear)
UT to Burdens Creek	NSI	Ephemeral	N/A (Cape Fear)
UT to Burdens Creek	NSIA	Ephemeral	N/A (Cape Fear)
UT to Burdens Creek	NSJ	Perennial	N/A (Cape Fear)
Burdens Creek	NSK	Perennial	N/A (Cape Fear)
UT to Burdens Creek	NSKA	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSL	Perennial	N/A (Cape Fear)
UT to Burdens Creek	NSLA	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSLB	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSLC	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSLD	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSLE	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSLFA	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSLF	Intermittent	N/A (Cape Fear)
UT to Burdens Creek	NSM	Intermittent	N/A (Cape Fear)

These on-site determinations shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWQ or Delegated Local Authority that a surface water exists and that it is subject to the mitigation rules may request a determination by the Director. A request for a determination by the Director shall be referred to the Director in writing c/o John Dorney, DWQ Wetlands/401 Unit, 1650 Mail Service Center, Raleigh, NC 27699-1650. Individuals that dispute a determination by the DWQ or Delegated Local Authority that "exempts" a surface water from the mitigation rules may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. DWQ recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This determination is final and binding unless you ask for a hearing within 60 days.

This letter only addresses the applicability to the Clean Water Act and the Neuse Buffer Rules (15A NCAC 2B .0233) and does not approve any activity within Waters of the United States or Waters of the State. If you have any additional questions or require additional information please call Nicole Thomson at (919) 715-3415.

cc: File Copy

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

April 26, 2006

Mr. Mark Mickley
Mulkey Engineers & Consultants
6750 Tryon Road
Raleigh, NC 27636

Subject: **Triangle Parkway in Durham and Wake Counties, U-4763**

On-Site Determination for Applicability to Isolated Wetlands and Isolated Waters Permit (IWGP100000)

Dear Mr. Mickley:

On April 21, 2006, Nicole Thomson and John Dorney conducted an on-site determination to review 2 stream features, 3 wetland features and 2 ponds within the study area for the referenced project for applicability to the Isolated Wetlands and Isolated Waters Permit (IWGP100000). The Division of Water Quality (DWQ) determinations for the features are presented in Table 1.

Table 1. – Isolated wetland and surface water determinations within the U-4763 corridor.

Stream Feature ID	Associated Figure	Surface Water/Wetland Determination	Buffer Applicability
UT to Kit Creek	SR	Isolated Intermittent (up to flag at headcut)	N/A (Cape Fear)
UT to Kit Creek	MSAB	Isolated Intermittent	N/A (Cape Fear)
	WG	Isolated wetland	N/A
	MWB	Isolated wetland	N/A
	NWK	Isolated wetland	N/A
	P1	Isolated surface water	N/A
	P2	Isolated surface water	N/A

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: http://h2o.enr.state.nc.us/ncwetlands

These on-site determinations shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWQ or Delegated Local Authority that a surface water exists and that it is subject to the mitigation rules may request a determination by the Director. A request for a determination by the Director shall be referred to the Director in writing c/o John Dorney, DWQ Wetlands/401 Unit, 1650 Mail Service Center, Raleigh, NC 27699-1650. Individuals that dispute a determination by the DWQ or Delegated Local Authority that "exempts" a surface water from the mitigation rules may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. DWQ recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This determination is final and binding unless you ask for a hearing within 60 days.

This letter only addresses the applicability to the Isolated Wetlands and Isolated Waters Permit (IWGP100000) and does not approve any activity within Waters of the United States or Waters of the State. If you have any additional questions or require additional information please call John Hennessy at (919) 733-5694.

cc: File Copy

From the US Army Corps of Engineers, Wilmington District website at the following URL http://www.saw.usace.army.mil/WETLANDS/index.html, accessed on February 2, 2007 the following information is provided in lieu of Jurisdictional Determination correspondence:

As a result of the Supreme Court decisions in United States v. Rapanos and United States v. Carabell, the U.S. Army Corps of Engineers and the Environmental Protection Agency are developing a policy that will clarify the methods that describe and document jurisdictional determinations (JDs) pursuant to the Clean Water Act (CWA). This policy may impact jurisdictional determination, in cases where there are intermittent or ephemeral streams or wetlands adjacent to intermittent, ephemeral or perennial streams.

In light of the pending release of formal guidance on this issue, when there are these types of waters present on a site, the Wilmington District will not issue a Final JD until the final or additional interim guidance is issued by headquarters.

We have not been given a timeframe for the issuance of any formal guidance. However we will post an announcement on our web site as soon as it is available. The Wilmington District will continue to make jurisdictional calls, based on existing procedures, for waters not affected by the rulings. These include:

- Traditional navigable waters (Section 10)
- Isolated, non-navigable, intrastate (SWANCC)
- Wetlands or waters abutting Section 10 waters
- Natural tributaries that are relatively permanent, standing or continuously flowing, bodies of water such as streams and rivers.

The pending guidance affects our procedures for processing stand-alone jurisdictional determinations. The Wilmington District is continuing to process and issue permits without delay. If forthcoming guidance should change our jurisdiction, then permit holders can request a revised jurisdictional determination; and corresponding permit requirements, such as mitigation, may be re-visited.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

August 11, 2006

Cindy Carr
Mulkey, Inc.
P.O. Box 33127
Raleigh, NC 27636

Dear Ms. Carr:

This letter is in response to your letter of August 1, 2006 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Turnpike Authority that the proposed construction of the Triangle Parkway in Wake and Durham Counties (TIP No. U-4763) will have no effect on the federally endangered smooth coneflower (*Echinacea laevigata*) and Michaux's sumac (*Rhus michauxii*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, plant surveys were last conducted within the project corridor on June 30, 2006. No specimens of smooth coneflower or Michaux's sumac were observed. Based on the survey results and other available information, the Service concurs with your determination that the proposed project will have no effect on these federally listed plant species. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied for these species. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Gary Jordan

for Pete Benjamin
Field Supervisor

cc: Eric Alsmeyer, USACE, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC
John Sullivan, FHwA, Raleigh, NC

Triangle Parkway
Merger Meeting Minutes
July 20, 2006

An agency coordination meeting was held on July 20, 2006 to present the NCTA candidate toll road projects, the Triangle Parkway and the Western Wake Parkway to federal and state environmental regulatory and review agencies. The meeting was held in the NCDOT Board of Transportation Room and the following people were in attendance:

Cathy Brittingham	DCM
Clarence Coleman	FHWA
John Conforti	PD&EA
Craig Deal	HNTB
Steve DeWitt	NCDOT/NCTA
M.E. Dumond	ARCADIS
Gail Grimes	NCTA
John Hennessy	DWQ
Ed Johnson	Capital Area MPO
Gary Jordan	USFWS
Travis Marshall	TPB
Kathy Matthews	EPA
Sarah McBride	NC - SHPO/DCR
Adin McCann	HNTB
Scott McLendon	USACE
Todd Meyer	PD&EA
Chris Militscher	EPA
Kristina Miller	ARCADIS
Vince Rhea	PD&EA
Rob Ridings	DWQ
Anne Redmond	HNTB
Amy Simes	DENR
Steve Sollod	DCM
Ryan White	PD&EA
Travis Wilson	NCWRC
Michael Wray	PD&EA
Jay Bissett	Mulkey
Michelle Fishburne	Mulkey
Cindy Carr	Mulkey

Gail Grimes opened the meeting by presenting a brief history of the Turnpike Authority. The North Carolina Turnpike Authority (NCTA) was created in 2002 and is looking toward building the first toll roads in the state of North Carolina. The NCTA Board of Directors has approved seven roadway projects as candidate projects. These projects are candidates since whether the projects will be built as toll roads or not is a business decision. This decision is based on traffic and revenue studies to determine if the project will generate enough revenue to pay for construction, operation and maintenance.

The Turnpike Authority, the NCDOT, and the Federal Highway Administration have agreed upon an approach for interagency coordination for two of the seven candidate turnpike projects, the Triangle Parkway and the Western Wake Parkway. The FHWA, NCDOT, and the NCTA have not agreed upon an approach for the other projects at this time. Therefore no information was presented at the meeting for the other candidate projects.

The NCTA has retained the services of a general engineering consultant to assist the Authority with management of the candidate projects. Craig Deal, Anne Redmond, and Adin McCann are on the management team. ARCADIS was contracted to conduct a re-

evaluation for the Western Wake Final EIS and the record of decision to ensure that the decisions documented in the study are still valid.

Two representatives from ARCADIS were present: Christina Miller and Melissa Dumont. Also present is Steve DeWitt, the Chief Engineer for the Turnpike Authority.

Ms. Grimes requested the agency members who serve on the Eastern Concurrence Team identify themselves. The following members introduced themselves:

Kathy Matthews	EPA
Gary Jordan	USFWS, Raleigh office
Travis Wilson	Wildlife Resources Commission
Clarence Coleman	FHWA
Ed Johnson	Director of Capital Area MPO
Sarah McBride	State Historic Preservation Office
John Hennessy	Division of Water Quality
Rob Ridings	Division of Water Quality
Scott McClendon	USACE
Chris Militscher	EPA

Following a review of the Western Wake project, Gail Grimes introduced the Triangle Parkway team representing Mulkey Engineers & Consultants which included Jay Bissett, Michelle Fishburne and Cindy Carr.

Mr. Bissett presented an update for Triangle Parkway studies. Mr. Bissett noted that a scoping meeting for the Triangle Parkway was held on January 13th. The purpose of this interagency meeting is to update the agencies on the studies and findings that have occurred since that time. Mr. Bissett presented information about the project including a summary of the project history.

Displays provided at the meeting included a project vicinity map, the RTP master plan, the draft purpose and needs for the project, and an aerial photograph showing the alternative corridors. Handouts, including an agenda, a summary of scoping letter comments, a summary of the project study to date, and an impact summary, were also provided and distributed during the presentation.

PROJECT DESCRIPTION

The project is included in both the DCHC and CAMPO long-range transportation plans. Triangle Parkway starts on the southern end at McCrimmon Parkway in Morrisville, just west of NC 54, and continues to the north across I-540 (which is currently under construction), Davis Drive, Hopson Road, and terminates at the NC 147 and I-40 interchange in Durham County.

PROJECT HISTORY

The project history starts in 1958 when RTP was developed. Triangle Parkway is identified in the original master plan for RTP. For the most part the Triangle Parkway is located within the RTP property except at I-540 where it extends beyond the original RTP boundaries. NCDOT has already acquired this property for the I-540 right-of-way. The Triangle Parkway also crosses a small amount of private property outside of the RTP near the end of the project as it ties into McCrimmon Parkway.

The Triangle Parkway was part of the thoroughfare plans for Wake and Durham Counties in the 1960's. After the local MPO developed and initiated long range plans, Triangle Parkway was added to long range plans for both CAMPO and with DCHC. Triangle Parkway has remained on these plans since that time. Other studies, including the I-40 HOV Study and the TTA Studies, include the Triangle Parkway as an integral part of the total transportation system.

The Triangle Parkway has a long history of being included in local plans and area transportation studies. The need for the Triangle Parkway really became apparent when I-540 was completed at I-40. The new I-540 and I-40 interchange could not function at an adequate level of service with the traffic coming into the interchange. The traffic studies conducted for the Northern Wake Freeway predicted that the Triangle Parkway would be needed when the interchange with I-40 was constructed. Since the Triangle Parkway was not constructed when the interchange opened, the level of service and capacity of the interchange was exceeded. The NCDOT constructed interim ramp extensions at the I-540 interchange to help with the situation.

PROJECT NEED

With the obvious need to improve traffic on I-40, both the DCHC and CAMPO took notice of the immediate need to construct the Triangle Parkway, and moved this project up on the priority list for both counties. Triangle Parkway continues as a priority project for both MPO's.

The urgent need for the project and the lack of available transportation funds to construct the project led the NCDOT, DCHC, and CAMPO to evaluate toll options for constructing this project. NCDOT predicted the only way the project could be built in the next 20-30 years would be as a toll project. Initial revenue studies indicate it is a good candidate for a toll project.

Ms. Grimes noted that the traffic and revenue studies for Triangle Parkway are available for review on the NCTA website.

PROJECT SCOPING

In early January, scoping letters were sent and a formal scoping meeting was held. Most environmental regulatory and resources agencies were represented. Mulkey and HNTB met with the agencies that were unable to attend at a later date. The primary concerns

noted in the scoping letters were wetlands and streams impacts. A letter was received from the State Historic Preservation Office stating that no additional review of archaeology or historic architecture resources is needed. In addition, no Section 7 and Section 9 resources occur in the study area based on field habitat studies and surveys. From a natural resource standpoint, it appears that streams and wetlands are the only natural resource issue.

PROJECT PUBLIC PARTICIPATION

On June 20th a public meeting was held at Sigma Xi in RTP. Approximately 150 people attended, mostly employees from RTP. It is anticipated that they will be the primary users of the candidate toll road. The majority of input received at the public meeting was supportive. Some attendees expressed concerns about price of tolls and appeared to understand the funding issues and the need for the roadway. A couple of residents and workers within the project vicinity noted that they did not like tolls, and would probably choose to use the existing free roads, including NC 55, NC 54, Davis Drive, or I-40 as alternatives.

PROJECT PURPOSE

Traffic congestion on I-40 is the major issue. When reviewing the TTA study, the I-40 HOV study, and the traffic studies prepared by CAMPO and DCHC, Triangle Parkway is the only identified project that will reduce traffic on I-40 as well as NC 55, NC 54, and Davis Drive. NCDOT has projects underway for widening NC 55, Davis Drive, and NC 54. But even with widening, these roads will be at or over capacity by 2030 and the level of service will be poor. Triangle Parkway needs to be constructed to improve travel time and mobility between Wake and Durham Counties and to assist RTP economically: including keeping new businesses coming in and current businesses viable.

PROJECT ALTERNATIVES

The Green Corridor was presented to the environmental agencies at the January meeting. Comments received included concerns about potential longitudinal impacts along Burdens Creek and other wetland areas. Suggestions to look at another corridor for the project were made by DWQ and USACE representatives. The possibility of following a different corridor was reviewed and the Yellow Corridor was developed. When reviewed, some of the main concerns along the Yellow Corridor when compared to the Green Corridor include:

- The Green Corridor follows the corridor protected by RTP since 1958; therefore, this corridor would not impact any existing businesses.
- The Green Corridor could impact one property; the abandoned Center for Disease Control building. This building is scheduled for demolition by the property leasers.
- The Yellow Corridor would impact several businesses including the EPA Air Quality Testing Facility, which is located in the center of the Corridor.

- The location of the Yellow Corridor is constrained through the EPA property since it needs to connect to I-40 and tie into the I-540 interchange currently under construction.
- EPA's property is federally owned. Mulkey and NCTA met with EPA representatives, and the EPA Agency is not interested in working with NCTA on selling this property or swapping for other property.
- The fatal flaw with the Yellow Corridor is the impact to EPA property. Since it is a federally owned property, NCTA can not condemn this property for use as road right of way. EPA is the largest single property owner in RTP.

ENVIRONMENTAL CONSTRAINTS

Mulkey has performed wetland delineations through the Green Corridor. The biologists met in the field with DWQ and the Corps and verified the boundaries. Mulkey included the wetland locations on the mapping used to develop the functional designs. The Mulkey biologists also surveyed the corridor for potential habitat areas for protected species. These surveys were performed during the correct time of the year to identify the protected species. A letter to the USFWS stating that based on the field reviews no impacts to protected species are anticipated is in preparation. Therefore, to date the environmental constraints identified for the Triangle Parkway project include the streams and wetlands.

FUNCTIONAL PLANS AND PRELIMINARY IMPACTS

Mulkey is reviewing the design constraints and options to minimize impacts to streams and wetlands. The project starts where Town Hall Drive connects with McCrimmon Parkway. The project connects with the I-540 interchange currently under construction and with the existing I-40/NC 147 interchange. For clarity and presentation purposes, Mr. Bissett discussed the designs in three sections: McCrimmon Parkway to I-540, I-540 to Hopson Road, and Hopson Road to I-40.

I-40 to Hopson Road

The functional designs avoid the EPA property and minimize the longitudinal impacts to the adjacent stream. Most stream impacts are associated with streams which were determined in the field reviews to be unimportant intermittent: 1,800 feet of intermittent and 970 feet of perennial. Most intermittent stream impacts are located in the potential interchange area with Hopson Road.

Hopson Road to I-540:

The majority of the perennial stream impacts would occur between I-540 and Hopson Road, specifically the section of the project between Davis Drive and Hopson Road. It does not appear these impacts can be avoided.

I-540 to McCrimmon Parkway
There is only a small area of wetlands in the section between I-540 and McCrimmon Parkway. There are streams, several of which are protected in a conservation easement by the Research Triangle Foundation (RTF). RTF left a gap in their conservation easement for the road. Therefore, it is not anticipated that the conservation easement would be impacted with the current location. Impacts to the streams were minimized by using perpendicular crossings and avoiding longitudinal crossing.

Total Project
The preliminary impacts calculated for the total project include 3,900 feet of perennial streams out of a potential 30,000 feet within the corridor. Bridging would reduce these impacts even further. There are 3,100 feet of intermittent stream impacts out of the potential 13,000 feet located within the corridor.

DISCUSSIONS DURING THE AGENCY COORDINATION MEETING:
The following topics were discussed among the agencies and representatives from NCTA and Mulkey Engineers & Consultants:

1. A question was asked if the Yellow Corridor would be discussed in the NEPA Document. This alternative was considered a "preliminary alternative." The preliminary alternatives and reasons for eliminating them from further study will be included in the alternative section of the document.

   The Yellow Corridor was eliminated for several reasons including the fatal flaw associated with needing federally owned property from the Environmental Protection Agency (EPA) and National Institute of Environmental Health Sciences (NIEHS). At a June 27, 2006 meeting with EPA, the EPA representatives stated that the property was not available for NCTA right of way. Since NCTA can not condemn federal property, the Yellow Corridor was eliminated from further study.

2. There is not a formal letter from the EPA stating their unwillingness to transfer or sell their land. However, the information was provided verbally at a meeting with EPA. Minutes documenting this meeting were prepared and sent to EPA. No comments on these minutes have been received at this time.

3. John Hennessy noted that it is interesting that EPA is unwilling to consider an alternative that might reduce impacts to streams and wetlands. Chris Militscher noted that the Unit of EPA in the RTP is different than the Unit represented on the Merger Team, and that the equipment EPA has within the RTP center is quite expensive and is used nationally.

4. Cindy Carr noted that there is no guarantee that using the Yellow Corridor would reduce impact. There is a large lake at the Durham Wildlife Club that would be impacted and there are a number of other perennial streams which would be crossed by the Yellow Corridor. Jay Bissett added there are also a number of streams impacted with the Green Corridor that would be impacted with the Yellow Corridor also.

5. The comment letter from SHPO noted that there are no Section 106 issues, and the agency has no further comments on the project.

6. Cindy Carr has performed the surveys for protected species and a letter to the US Fish and Wildlife Service stating the findings is being prepared.

   Cindy Carr noted that there are a number of power line easement crossings in the study area. A plant by plant survey was conducted within these easements, and appropriate habitat for Coneflower does not exist. This area is not maintained by the power company. There is waist-high bush clover growing, and dense vines and shrubs. The power company spot treats for trees.

7. A public meeting was held on June 20th. The comment period for this public meeting ended June 19th. Mulkey is currently working on the environmental document. Based on preliminary studies, the FHWA, DOT and Turnpike Authority believe the impacts to the natural resources, cultural resources, the human environment are such that the NEPA document should be processed as an Environmental Assessment, and are moving in that direction.

8. Morrisville supports the project but does not want Triangle Parkway traffic to overload their town center. Morrisville wants the connection between I-540 and McCrimmon to attract traffic from NC 54 and Davis Drive. The connection to McCrimmon Parkway is on the adopted CAMPO and Town of Morrisville Transportation Plans. Town Hall Drive at McCrimmon Parkway was widened to accommodate this connection.

9. Ed Johnson noted how a few years ago, the town looked at a connector road between Davis Drive and the Triangle Parkway which would tie to the Parkway between I-540 and McCrimmon Parkway. At that time, RTP had a lot of property that was under options to buy which would have been impacted. In addition, one of the concerns in connecting Davis Drive was that Davis Drive has a lot of commuter traffic that in theory wants to access Triangle Parkway. Therefore, if one of the reasons for this project is to get traffic off Davis Drive, it doesn't make sense for Davis Drive to end at Triangle Parkway. It was preferred to locate the Triangle Parkway as shown at this meeting, so the Davis Drive Connector was dropped.

10. John Hennessy questioned whether the inclusion of the section of the project between I-540 and McCrimmon Parkway was for the economic aspects for the toll road or the transportation aspects for the road. Specifically, John asked if the project would reduce traffic on I-40 and if the McCrimmon Connector is necessary to make the economic viability of the toll road.

    Jay Bissett and Gail Grimes responded that the answers to both of Mr. Hennessy's questions are yes. Mr. Bissett noted that the primary purpose for the project is to reduce the traffic congestion on I-40. The section of the project from I-40 to I-540 will meet this need.

    Ms. Grimes explained the preliminary traffic and revenue studies for Triangle Parkway and Western Wake evaluated two scenarios. Scenario 1 was for the project from I-540 to I-40. Scenario 2 was for the project from I-540 to I-40 with a controlled access connector between McCrimmon and I-540. It was found that the revenues on Triangle Parkway increased about 20% with the second scenario. It is not decided whether this section would be or would not be full control of access or a toll road.

11. John Hennessy requested the NCTA to expand the Green Corridor between I-540 and McCrimmon Parkway. The corridor is currently located within a valley with

a stream to the southwest. It appears there is a ridge line that runs parallel which could be used to relocate part of or the entire road onto the ridge and out of these streams.

Jay Bissett stated the biggest concern with expanding the corridor is connecting the corridor with the I-540 interchange, which is currently under construction. There may be constraints in the design criteria that would prevent constructing the roadway on the ridge. Additionally, the proposed expansion could impact the RTF designated conservation easements.

However, shifting and/or expanding the corridor would be reviewed as requested by Mr. Hennessy.

12. John Hennessey asked how the conservation easement would affect the design. Mr. Hennessy stated the need to go into more detail at some point as part of the avoidance & minimization for the 401 permit. If the plan is only carrying a single corridor through the document, he requested that the corridor width be expanded. This would most likely help to address the agency questions and concerns that may arise during the permitting process. Consequently, it would be advisable to expand the corridor, complete the natural resources studies, and gather additional information regarding the conservation easements at this time. This way, there would be due diligence on design, and no one will be limited during the permitting process.

13. Michelle Fishburne noted that coordination for avoidance and minimization in would occur as the preliminary plans are developed with the EA, and that this would not be the last time the agencies would see this project before the permit application.

14. Gail Grimes noted that the NCTA would like to discuss further coordination for this project with the agencies to determine the best approach for this project.

    Ms. Grimes stated the natural systems field surveys indicate there will be no effect on the protected species. The NCTA will submit a letter with this information to US Fish & Wildlife and anticipates receiving their concurrence. Therefore, this would leave the project with two primary areas of concern: streams and wetlands.

15. Gail Grimes stated the NCTA would like to use the Merger screening process for the Triangle Parkway project. She added that although the jurisdictional impacts are above the typical thresholds, the limited nature of these impacts could, with the agencies approval, make this project exempt from the Merger Process. Ms. Grimes added that the NCTA would like to review an option with the Merger team that includes working directly with the agencies associated with the jurisdictional concerns. These agencies would include the DWQ and the Corps of Engineers. Future meetings could be held with these agencies to review

alternatives, minimization, NEPA process, and the 401 and 404 permitting processes; which are the purpose of Merger process. Although we would not be following the Merger process in its entirety, we would be following the spirit of Merger, which is to fulfill the regulatory requirements that are binding on all of us in a way that is best for the project and keeps us from redoing work.

16. The NCTA would like the agencies input regarding the recommendation for this project in addition to the future approaches to other NCTA projects.

17. Scott McClendon expressed his concern with getting to the end of the process and having the US Fish & Wildlife find concerns during the permitting stage that were not addressed in the NEPA document. Under this scenario the next time the agencies would have the opportunity to review the project would be during the public notice for the permit.

18. Scott McClendon noted that the NCTA needs to identify significant USFWS issues that would cause this project to go through the Merger process. Mr. McClendon asked how much involvement the agencies had during scoping.

19. Chris Militscher noted that the only opportunity the agencies had to review the project was during scoping. Mr. Militscher further noted that from a NEPA standpoint, scoping is as important as the Corps' permit application and sending out a public notice. One of the main reasons for scoping is to provide all the agencies an opportunity to bring out the issues that need to be addressed.

20. Gary Jordan asked why agency involvement has to wait until the application process.

21. Michelle Fishburne noted that the project would still require the circulation of the Environmental Assessment for agency comments

22. Chris Militscher noted his worry about consistency between turnpike projects NCDOT projects. He added that he did not think this project is a very good candidate for Merger until the point of avoidance and minimization discussions. Based on the current scope, this is very similar to Timber Drive in Garner where the four primary agencies decided to option the project out of Merger and are reviewing the project only at 4A/4B/4C. The four agencies decided to follow Merger only where it would help reduce those vulnerabilities of last minute comments and/or objections from agencies. Mr. Militscher suggested that agency review occur after the Environmental Assessment and before the permit application.

23. Clarence Coleman noted that the EA is not the final document. Part of the standard NEPA process includes publishing an EA for public and agency comments. The comments in the EA would be addressed and then the project

would proceed. The standard process does not allow comments on the EA to be ignored prior to approval.

24. Clarence Coleman emphasized the importance of the NEPA scoping process and requested the agencies let NCTA, FHWA, and NCDOT know their issues so they are addressed early in the project.

25. Travis Wilson commented that the design and stream crossing details presented during the review of the design plans are when problems come to light. Reviewing the early design details where the agencies look at avoidance and minimization would alleviate USFWS concern.

26. John Hennessy noted that all of the team would like to attend the 4A, 4B, 4C meeting, which is how non-Merger DOT projects are typically handled. He added that this would make the agencies comfortable.

    Gail Grimes noted that this would be a fine solution and added that the EA for this project would be sent to the agencies for comments prior to these meetings.

    Gail Grimes added that the NCTA was agreeable to meeting with the COE and DWQ before the EA is circulated to discuss the wetland and stream issues, after which the whole team would meet for 4A, 4B, 4C.

27. John Hennessy commented non-Merger projects would not include signed forms.

28. John Hennessey stated that he would like more information on the how the NCTA plans to proceed with the other projects and asked if NCTA had made a decision in that regard. He noted that it sounded like there might be some resistance from NCTA in following the Merger, or at least on this project.

    Gail Grimes noted that NCTA has not determined what coordinating approach they would present to the agencies for any projects other than Western Wake and Triangle Parkway. Western Wake would continue in the Merger process with the team concurring at points 4A, 4B, and 4C.

    For Triangle Parkway, the potential impacts identified are limited. NCTA believes that based on the merits of the project, the Triangle Parkway does not need to go through the full Merger process. The NCTA is not resistant of the resistant the Merger process.

    There are discussions being held internally between FHWA, NCDOT and NCTA to decide what approach is appropriate and whether the other projects will go through Merger. Once there is some agreement, then the approach will be presented to the agencies.

29. The NCTA will attend the Interagency Leadership Team meeting on the 27th, to discuss how the NCTA proposes to conduct interagency coordination for the candidate turnpike projects.

30. NCTA believed this project was a good candidate to go through the screening process, and 4A, 4B, and 4C.

31. John Hennessy noted that this screening approach and non-Merger decision is how NCDOT projects are handled anyway. Straightforward projects, like this project, do not go into Merger. It is understood that NCDOT will have conversation with agencies along the way.

32. Craig Deal noted that the NCTA realizes there will be the need to do Merger on other projects. He confirmed with the agencies that a 4A meeting to review the horizontal and vertical alignment would be held for the non-Merger NCTA projects.

33. Steve Dewitt noted NCTA Design-Build projects will follow NCDOT process for agency input. Meetings with pre-and post- selection Design-Build Teams will be held with the agencies.

34. John Hennessey asked about the status of the previous discussions to have regular agency meetings. Perhaps these would not be concurrence meetings but regular meetings.

35. NCTA agrees with this approach and would like to arrange these monthly meetings with the agencies to discuss all projects in one meeting.

36. Craig Deal noted that the NCTA would like to have these coordination meetings if the agencies believe they could commit a day on their calendars. Craig Deal noted that he would review calendars and the NCTA would arrange some possible dates.

Meeting was adjourned.

SUMMARY

The following items provide a summary of the Triangle Parkway discussions and decisions made during the meeting:

1. The FHWA, NCDOT, NCTA, and the regulatory agencies agree that Triangle Parkway will be considered a non-Merger project.

2. An Environmental Assessment (EA) will be prepared for the project.

3. The NCTA will meet with DWQ and the COE to review the functional design plans prior to completing the EA.

4. Following the completion of the EA, NCTA will coordinate with the agencies for Concurrence Points 4A, 4B, and 4C.

5. If Triangle Parkway is design-build, NCTA will follow the typical NCDOT Design-Build Team coordination process with the agencies.

6. The NCTA will schedule regular agency coordination meetings to review all NCTA projects. The NCTA will coordinate the dates of these meeting with other NCDOT meetings so everyone can attend.

MEMORANDUM

TO: Meeting Participants

FROM: Michelle Fishburne, Mulkey Engineers & Consultants

DATE: October 3, 2006 *(Follow-up Meeting from July 2006 Meeting)*

SUBJECT: Agency Review of Triangle Parkway and the McCrimmon Connector

Meeting Participants

Eric Alsmeyer, USACE Raleigh
Jennifer Harris, NCTA
Steve DeWitt, NCTA
Jay Bissett, Mulkey
Michelle Fishburne, Mulkey
Rob Ridings, Division of Water Quality - TPU
John Hennessy, Division of Water Quality
Craig Deal, HNTB
Johnny Banks, Mulkey
Elizabeth Scherrer, EcoScience
Adin McCann, HNTB

Meeting Summary

Eric Alsmeyer was unable to attend the July 20th Merger team meeting. Consequently, the staff from NCTA, Mulkey, EcoScience, and HNTB met with Mr. Alsmeyer at 2:00 pm to review the information presented at this meeting.

At 2:30 pm, the scheduled meeting began with the remainder of the meeting participants. A preliminary impacts table was distributed showing the potential impacts for different corridors under review.

The discussion began with questions on several subjects. They are as follows:

Status of CDC Building – currently scheduled to be demolished and replaced with a new building. GSA is leasing this building which makes the building subject to Federal property rules. Therefore, the NCTA would not be able to condemn the property for acquisition.

John Hennessy asked if the McCrimmon Connector is going to be built. Craig Deal stated that the McCrimmon Connector is not part of the official NCTA project description. However, at the request of the Capital Area MPO and the Town of Morrisville, the NCTA is studying it further to evaluate if construction is feasible as part of the Triangle Parkway project.

Jay Bissett reviewed the impact table for the functional designs of the two alternatives for the McCrimmon Connector (Corridors A and C) and noted that preliminary mapping is being prepared.

Therefore, the slope stakes may change when better mapping is available.

Mr. Bissett noted the differences in impacts. Corridor C impacts more wetlands and Corridor A impacts more perennial streams.

Mr. Bissett added that the alignment of Corridor A is more desirable from a design standpoint. The alignment for Corridor C was developed using minimum design criteria. Corridor C also introduces a reverse curve into the horizontal design near the stop condition near McCrimmon. This is not normal operating procedure for roadway designs and is not a favorable situation. Mr. Bissett stated that the Mulkey biologists believe that the location of the Corridor A stream crossing appears to be a better choice due to its proximity near the headwaters.

Mr. Bissett also noted the conservation easement would be impacted with Corridor C and would require a revision to the existing agreement between the Corps of Engineers and the Research Triangle Foundation. A copy of the agreement was provided to all attendees.

Mr. Alsmeyer noted the streams that are impacted by Corridor C are better quality than Corridor A.

Mr. Alsmeyer noted that the conservation easement is not the original. Mr. Alsmeyer suggested that it might possibly have been amended for I-540. Mr. Alsmeyer mentioned he would look up the easement to see how the RTF easement was originally designed.

Mr. Hennessy questioned impacts to the wetlands on Corridor C. He was concerned that the impacts may have been calculated inaccurately. He did not think there was as much difference in impacts to wetlands between Corridors C and A. Mr. Hennessy thought the measurements from the mapping appeared to be less than the 1.49 acres shown for Corridor C. Mulkey stated that it would check the math and provide more detailed information to agencies.

The design review of the I-540 interchange noted that most of the impacts are associated with the McCrimmon Connector and not the interchange ramps.

Mr. Bissett summarized by noting that NCTA believes the corridor A is the better choice with overall fit: based on impacts to property owners and wetlands and the functional design of the alignments.

Mr. Hennessy noted that the watershed is in the Cape Fear, not the Neuse River.

Craig Deal noted that on-site mitigation will be studied for any unavoidable impacts to wetlands and streams. However, Mr. Deal questioned the functional value of mitigation in this area. The mitigation for this project will need to be addressed at a later date. The Triassic soils and stability of streams will be an (Geomorphology / needs to be assessed) issue. A stable Triassic stream can look like a degraded urban stream. NCDOT has had problems with mitigating streams on the construction of I-540.

Mr. Deal requested a field review meeting of the possible stream relocation. The Fish and Wildlife Service (FWS) and Wildlife Resources Commission (WRC) should attend. Prior to scheduling the field meeting, the NCTA should conduct soil sampling to determine what type of material is present in the areas surrounding the impacted stream.

It was noted that the COE needs to issue public notice prior to decision on the acceptance of the project. Therefore, the COE and DWQ could not provide approval of the alignment and avoidance and minimization at this time. Mr. Bissett asked if the information presented at today's meeting helped to answer the COE and DWQ questions regarding the section of the project between I-540

and McCrimmon Parkway. Mr. Alsmeyer and Mr. Hennessy stated that the information presented at today's meeting is part of the picture and needs to be presented for the permit application.

Mr. Alsmeyer will review the timeline associated with issuing the public notice to correspond with the Public Hearing. Mr. Hennessy stated that there would probably need to be some type of meeting prior to the Concurrence Point (CP) 4A milestone if the project was going to utilize a Design-Build approach. Mr. Alsmeyer stated that this meeting would be used to make a decision on avoidance considerations.

The Environmental Assessment (EA) is scheduled for March/April which should provide ample time to issue the notice.

Mr. Bissett reviewed the options of a split diamond interchange with access roads or partial clover interchanges for the section of Triangle Parkway between Hopson Road and Davis Drive and the following issues/concerns:

- GSA property impacts
- Toll booths on loop ramps
- Cash lane needs

Mr. Bissett reviewed the impacts associated with both options, including the travel patterns.

Mr. Bissett noted benefits of the split diamond interchange design

- No impacts to GSA property
- Traffic operations were better
- Weaving distance concern with the partial clover design was eliminated

Mr. Alsmeyer asked why both interchanges are needed. Mr. DeWitt and Mr. Bissett noted the amount of traffic on the road.

Mr. Bissett noted that Option 2 is better for traffic management issues and stream impacts were reduced. Mr. Bissett also noted that the initial hydraulic designs were complete and a bridge would be constructed at Burdens Creek further reducing the stream impacts for the proposed project.

Mr. Hennessey noted there could be issues with other NCTA projects if decisions are made creating more wetland and stream impacts because of the inclusion of toll facilities into the designs. If the Purpose & Need does not include tolling, there could be approved NEPA documents and then (minimization) permits may not be able to be approved.

Mr. Bissett then reviewed design congestion issues at Town Hall Drive and McCrimmon Parkway and the possible need for an interchange at that location. The NCTA is just starting to evaluate this option and does not have detailed information to present at today's meeting.

Mr. Hennessy asked about the use of "super streets" at this intersection. Mr. DeWitt and Mr. Bissett noted that the preliminary traffic information indicated that the left turn movements from the Triangle Parkway to McCrimmon Parkway are approximately 2600 vehicles per day in the design year. This volume limits how much a "superstreet" design could help.

The meeting concluded.

DCHC

DURHAM • CHAPEL HILL • CARRBORO METROPOLITAN PLANNING ORGANIZATION

Member Governments
Town of Carrboro
Town of Chapel Hill
County of Chatham
City of Durham
County of Durham
Town of Hillsborough
NC Department of Transportation
County of Orange

January 4, 2008

David W. Joyner
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1578

Re: U-4763B Triangle Parkway

Dear Mr. Joyner

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization has recently heard from citizens who are concerned about the design of the Triangle Parkway. In order to respond to these concerns, the MPO requests that the NCTA provide a project update on the Triangle Parkway at an upcoming meeting of the DCHC MPO Transportation Advisory Committee (TAC). The TAC would like to be briefed on the current status of the environmental review and design of the project and have the opportunity to ask questions and provide feedback on the project. It is our understanding that the NCTA is working towards holding a public hearing on the environmental study in March 2008. The requested briefing should occur before or during the public comment period.

The concerns raised relate to the impact the Triangle Parkway will have on access to the US EPA/NIEHS campus in Research Triangle Park. Currently, US EPA/NIEHS employees from Chapel Hill and Durham primarily use NC 147 south to access the campus entrance on T.W. Alexander Drive. The construction of the Triangle Parkway will eliminate the access from NC 147 to T.W. Alexander Drive south of I-40. After construction, employees will either use the NC 55 exit off I-40, the Hopson Road exit off of the new Triangle Parkway, or the Cornwallis Road or T.W. Alexander Drive exits off of NC 147 north of I-40. The driveway to the US EPA/NIEHS campus on Hopson Road will be limited access. Left turns out of the driveway onto Hopson Road towards the Triangle Parkway will not be permitted. Citizens have raised concerns that this design will add miles to their commute and increase congestion on T.W. Alexander Drive, Cornwallis Road, NC 54 and NC 55.

JAN 0 8 2008

City of Durham • Department of Transportation • 101 City Hall Plaza • Durham, North Carolina 27701• (919) 560-4366 • Facsimile (919) 560-4561

The TAC requests that the NCTA provide a response to these concerns at the briefing. The TAC will be meeting on the following dates, February 13, 2008, and March 12, 2008, at 9am in Durham City Hall. Please contact Ellen Beckmann at 560-4366 or ellen.beckmann@durhamnc.gov to schedule the project update at one of the upcoming meetings.

Sincerely,

Alice M. Gordon

Alice M. Gordon, Chair
Transportation Advisory Committee

Cc: Robert D. Teer, Jr., NCTA Board of Directors
Tom McCurdy, US EPA
DCHC MPO TAC

STATE OF NORTH CAROLINA
TURNPIKE AUTHORITY

MICHAEL F. EASLEY
GOVERNOR

1578 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1578

DAVID W. JOYNER
EXECUTIVE DIRECTOR

January 25, 2008

Ms. Alice M. Gordon, Chair
Transportation Advisory Committee
Durham-Chapel Hill-Carrboro Metropolitan Planning Organization
101 City Hall Plaza
Durham, North Carolina 27701

Re: Triangle Parkway – STIP Project No. U-4763B

Dear Ms. Gordon:

Thank you for your January 4, 2008 letter regarding the Triangle Parkway and the concerns regarding access to US EPA / NIEHS campus in Research Triangle Park. We would be happy to attend one of the upcoming DCHC MPO Transportation Advisory Committee (TAC) meetings to discuss this project. We will contact Ms. Ellen Beckmann to arrange a date to present to the TAC.

My staff has conducted several meetings with representatives from both EPA and NIEHS to discuss the concerns identified in your letter. We recently met with them on January 10, 2008 to continue the discussions regarding their concerns relative to the access at Hopson Road and the closing of the NC 147 spur between I-40 and T.W. Alexander Drive. At this meeting, the NCDOT agreed to allow full access with stop sign control at the intersection between the EPA driveway and Hopson Road. In addition, the NCTA agreed to fund the installation of a traffic signal at this intersection location when it is warranted.

The intersection of Hopson Road and the entrance to the EPA/NIEHS campus was analyzed as a full movement unsignalized intersection in the opening year (2011). Based on this analysis all the movements operate at an acceptable level of service in the opening year and continues to operate at an acceptable level of service for five years after the project opening. It is standard practice not to install a traffic signal unless the analysis shows that it is required within five years of the project opening. Therefore, a traffic signal is not proposed to be installed as part of the Triangle Parkway project.

Two of the EPA and NIEHS representatives present at the January 10, 2008 meeting (Mr. Ben Scaggs and Mr. Marc Hollander) indicated that this provision would satisfy their concerns relative to access to the campus from Hopson Road.

As indicated in your letter, the construction of the Triangle Parkway will eliminate the access from NC 147 to T.W. Alexander Drive south of I-40. However, the existing access between NC 147 and T.W. Alexander Drive north of I-40 will not be affected. As you may be aware, when I-40 was constructed, the access from NC 147 to T.W. Alexander Drive ("the NC 147 spur") was constructed as a temporary connection until the construction of the Triangle Parkway. The NCTA has agreed to keep the NC 147 spur between I-40 and T.W. Alexander Drive open as long as possible during construction. This will be accomplished through the use of a detour bridge in lieu of using fill material for the detour required when the existing NC 54 bridge over NC 147 is replaced. The addition of this detour bridge has added additional cost to the project, but we believe it is a reasonable additional expense in order to address concerns expressed by the traveling public.

Please note that the existing NC 147 spur will need to be closed permanently prior to the completion of the Triangle Parkway construction. The closing of the spur will occur when the contractor completes the tie between the Triangle Parkway pavement and the existing NC 147 pavement. Due to safety and operational concerns, there is no feasible alternative to keep the NC 147 spur open as part of the Triangle Parkway project. Also, this action is consistent with the DCHC MPO Long Range Transportation Plan.

We look forward to meeting in the near future with the TAC and discussing this important project.

Sincerely,

David W. Joyner
Executive Director

cc: Robert Teer, NCTA Board Member
Steve DeWitt, P.E., NCTA
Jennifer Harris, P.E., NCTA
J. Wally Bowman, P.E., NCDOT-Division 5 Engineer
Ben Scaggs, EPA
Marc Hollander, NIEHS

Turnpike Environmental Agency Coordination (TEAC) Meeting - East

MEETING MINUTES

Date: January 17, 2007
9:00 am to 12:00 pm
NC Turnpike Authority Board Room

Projects: Cape Fear Skyway – TIP No. U-4738; FA No. STP-0017(53)
Mid-Currituck Bridge – TIP No. R-2576; FA No. BRNHF-000S(419)
Triangle Parkway - TIP No. U-4763; FA No. NHS-54(7)
Western Wake Freeway – TIP NO. R-2635; FA No. NONE

Attendees:

Donnie Brew, FHWA
George Hoops, FHWA
Cathy Brittingham, NCDENR-DCM
Stephen Lane, NCDENR-DCM
Steve Sollod, NCDENR-DCM
Rob Ridings, NCDENR-DWQ
David Wainwright, NCDENR-DWQ
Wally Bowman, NCDOT-Division 5
Tony Houser, NCDOT-Roadway Design
Dewayne Sykes, NCDOT-Roadway Design
Lonnie Brooks, NCDOT-Structure Design
Travis Wilson, NCDENR-WRC
Bill Biddlecome, USACE (via conference call)
Eric Alsmeyer, USACE
Kathy Matthews, USEPA
Gary Jordan, USFWS
Gail Grimes, NCTA
Jennifer Harris, NCTA
Jerry McCrain, EcoScience
Elizabeth Scherrer, EcoScience
Jeff Dayton, HNTB
Craig Deal, HNTB
Adin McCann, HNTB
Anne Redmond, HNTB
Tracy Roberts, HNTB
Christy Shumate, HNTB
Chris Lloyd, PB
John Page, PB
David Griffin, URS

Presentation Materials: (Posted on TEAC website)
- December 15, 2006 Draft TEAC meeting minutes
- Revised Draft Section 6002 Coordination Plan Template
- Draft Section 6002 Coordination Plan for Cape Fear Skyway
- Draft Section 6002 Coordination Plan for Mid-Currituck Bridge
- Cape Fear Skyway Status Report
- Mid-Currituck Bridge Status Report

General Topics:
- **Minutes –** December 2006 TEAC meeting minutes scheduled for approval at February 14, 2007 meeting.
- **Draft Section 6002 Coordination Plan Template** – The revised draft template includes the suggested changes from the December 2006 TEAC meeting. Detailed discussion will occur at the February TEAC meeting. The template is scheduled for adoption at the March TEAC meetings.
- **Draft Section 6002 Coordination Plans for NCTA Candidate Projects** –The revised draft plans for Cape Fear Skyway and Mid-Currituck Bridge include the revisions suggested at December 2006 TEAC meeting.

- **Participating/Cooperating Agency Letters** – The NCTA anticipates mailing participating/cooperating agencies letters in February. Letters will be sent individual divisions of NCDENR.

Cape Fear Skyway Snapshot

- A brief update of the proposed the Cape Fear River was provided.

Mid-Currituck Bridge Snapshot

- A brief update of the proposed Mid-Currituck Bridge was provided.

Q&A:

When will the purpose and need statement be finalized?
The NCTA plans to finalize the purpose and need statement in spring 2007. The purpose and need may include time savings and hurricane evacuation. Tolls may be included as part of the P&N statement. This project is listed in the NCDOT TIP as a toll project.

What happens if the existing upgrade alternative is selected?
If the upgrade existing roads alternative is selected, the NCTA would return the project to NCDOT. If the bridge alternative is selected with some minor upgrades to existing facilities, it will continue on as a toll project. Economic feasibility could be an issue if the required upgrades to existing facilities are extensive.

When is the traffic and revenue study expected to be completed?
The traffic and revenue study is scheduled for March 2007.

What is the current design year traffic?
The current design year traffic is 2025, with an eventual update to 2035.

Will the effect of sea level rise be accounted for in the design and the description of land use and socio-economic impacts?
East Carolina University is assisting in developing the indirect and cumulative impact section of the DEIS. As a part of that work, they will be charged with simulating reasonably foreseeable future conditions and determining sensitivities that would influence travel behavior, traffic trip generation, and the economic impact of this behavior.

How will the hurricane evacuation study be treated in the new DEIS?
The hurricane evacuation study will focus on clearance times required to evacuate the barrier island population during a major storm event under build and no build conditions. The State goal is 18 hours (from the time an evacuation is ordered until people reach a point of safety). Emergency Management Services goal is generally 24 hours.

Will tolls be suspended during emergency hurricane evacuation conditions?
More than likely the tolls will be taken out during evacuation situations.

Action Items for TEAC Members:

- The NCTA plans to finalize the Section 6002 Coordination Plan Template after the February TEAC meeting. Agencies to provide comments no later than the February TEAC meeting.

Resolutions:

- None

Triangle Parkway Spotlight:

Additional Attendees:
Jay Bissett, Mulkey
Johnny Banks, Mulkey
Cindy Carr, Mulkey
Wendee Smith, Mulkey
Michelle Fishburne, Mulkey

Presentation Materials: (Posted on TEAC website)
- Year 2011 (opening year) and 2030 (design year) toll traffic forecasts to be used to determine environmental impacts and analyze traffic.
- Western Wake Parkway and Triangle Parkway project map showing location of proposed toll facilities.
- Conceptual Stream Relocation Plan
- List of advantages and disadvantages of stream relocation in the Triangle Parkway study area.
- Slides/Photographs of Burdens Creek and the unnamed tributary, and the stream in the median of NC 147.

General Discussion:
- *Toll traffic forecasts*
  - Approximately 30 percent fewer vehicles would use the toll facility than would use a non-toll facility.

- *Functional/Preliminary Design Plans*
  - The NCTA is evaluating the NC 147/I-40 interchange area and a portion of NC 147 from I-40 to Cornwallis Road to determine capacity improvements needed to accommodate Triangle Parkway traffic.
  - The NCTA evaluated two interchange configurations at Hopson Road/Davis Drive
  - The NCTA does not have a preferred alternative at this time.

- *Natural Resources*
  - The NCTA presented functional designs for Triangle Parkway in the area of Burdens Creek and the unnamed tributary to Burdens Creek.
  - Wetlands and streams along the project corridor have been delineated and approved by the Corp of Engineers (COE) and Division of Water Quality (DWQ).
  - On the southern end of the project, the stream will be relocated on one side of the proposed toll road to create one continuous stream rather than stream fragments on both sides of the roadway.
  - Avoidance and minimization of wetland impacts in the vicinity of the stream will be reviewed in more detail during preliminary design.
  - A stream located in the median of NC 147 was delineated as part of the Triangle Parkway natural systems survey and determined jurisdictional by the COE and DWQ.
  - The NCTA proposes to use the Ecosystem Enhancement Program's "in-lieu" fee program for mitigation of unavoidable wetland and stream impacts.

- *Environmental Document*
  - The NCTA anticipates approval of the Environmental Assessment (EA) in March 2007.

Q & A:

Does the impact table reflect the amount of stream impact (22,867 linear feet) for the entire project corridor?
The first row of numbers in the table are the wetland and stream impacts, both intermittent and perennial, for the entire 1,000 foot wide corridor between I-40 and I-540 (Corridor A). The second and third rows are the impacts associated with the functional designs for the two design options under consideration - a cloverleaf interchange design and a split diamond interchange design. The functional design is avoiding the majority of 22,867 linear feet of stream.

Do the impact calculations consider clearing work beyond the toe of slope?
No, the impact calculations do not consider clearing work beyond the toe of slope.

Will the NCTA use natural channel design for those sections of stream that will be relocated, in particular the unnamed tributary to Burdens Creek?
Yes, the NCTA will use natural channel design for the sections of stream that will be relocated.

Action Items for TEAC Members:

- Comments or concerns regarding wetland or stream impacts.
- Comments regarding a preferred alternative.
- DWQ to submit a list of their issues and concerns regarding use of the EEP "in-lieu" fee program for the Triangle Parkway.
- Recalculate the wetland and steam impacts table to quantify clearing limits that extend 10 feet beyond the toe of slope.
- Conduct additional studies to determine if stream relocation can be avoided; and if not, how much stream relocation is required.
- Prepare functional design for the proposed capacity improvements through the I-40/NC 174 interchange area and along NC 147.
- Conduct capacity analysis for the I-40/NC 147 interchange area based on the build toll forecast.
- Request the COE to place Triangle Parkway on public notice.
- Transmit NRTR to appropriate agencies and post on TEAC website.

Resolutions:

- The COE, DCM, WRC, EPA and USFWS agreed that mitigation through EEP "in-lieu" fee program is appropriate for the Triangle Parkway. DWQ deferred comment at this time.
- The COE, DCM, WRC, EPA, USFWS, and DWQ agreed that the split diamond interchange configuration is the preferred alternative.

Turnpike Environmental Agency Coordination (TEAC) Meeting

MEETING MINUTES

Date: February 14, 2007
9:00 am to 3:15 pm
NC Turnpike Authority Board Room

Project: TIP U-3321 Gaston E-W Connector – STP-1213(6)
TIP R-3329 Monroe Connector – NHF-74(21)
TIP R-2559 Monroe Bypass – NHF-74(8)
TIP U-4738 Cape Fear Skyway – FA No. STP-0017(53)
TIP R-2576 Mid-Currituck Bridge – FA No. BRNHF-000S(419)
TIP U-4763 Triangle Parkway – FA No. NHS-54(7)
TIP R-2635 Western Wake Parkway – FA No. BRSTP-000S(491)

Attendees:
Donnie Brew, FHWA
Clarence Coleman, FHWA
Eddie Dancausse, FHWA
George Hoops, FHWA
Sarah McBride, NCDCR-SHPO
Renee Gledhill-Early, NCDCR-SHPO
Cathy Brittingham, NCDENR-DCM
Stephen Lane, NCDENR-DCM (via telephone)
Steve Sollod, NCDENR-DCM
John Hennessy, NCDENR-DWQ
Polly Lespinasse, NCDENR-DWQ
Rob Ridings, NCDENR-DWQ
David Wainwright, NCDENR-DWQ
Marla Chambers, NCDENR-WRC
Travis Wilson, NCDENR-WRC
John Conforti, NCDOT- PDEA
Dewayne Sykes, NCDOT-Roadway Design
Scott McLendon, USACE
Eric Alsmeyer, USACE
Steve Lund, USACE
Kathy Matthews, USEPA
Chris Militscher, USEPA
Marella Buncick, USFWS (via telephone)
Gary Jordan, USFWS
Bill Malley, Akin Gump (via telephone)
Steve DeWitt, NCTA
Gail Grimes, NCTA
Craig Deal, HNTB
Anne Redmond, HNTB
Adin McCann, HNTB
Tracy Roberts, HNTB
Christy Shumate, HNTB
Jeff Dayton, HNTB
David Griffin, URS

Presentation Materials: (Posted on TEAC website)
- TEAC Alternative Meeting Location Dates
- TEAC Meeting Minutes format
- December 15, 2006 TEAC meeting minutes
- January 17, 2007 Draft TEAC meeting minutes
- January 25, 2007 Draft TEAC meeting minutes
- FHWA Interim Guidance on Air Toxic Analysis in NEPA Documents (Feb. 3, 2006)
- USEPA Comments on Draft Section 6002 Coordination Plan
- USACE Comments on Draft Section 6002 Coordination Plan
- NCTA responses to USACE comments on Draft Section 6002 Coordination Plan

- Revised Draft Section 6002 Coordination Plan Template
- Project-specific coordination plans for Monroe, Mid-Currituck, and Cape Fear.

General Discussion:

- **Minutes** – No comments have been received on the December minutes. USACE will review these minutes and provide comments, and they will be finalized at the March 2007 TEAC meeting. Minutes from the January 17 and January 25, 2007 TEAC meetings will also be finalized at the March meeting.
- **Presentation** – Eddie Dancausse gave a short presentation in the FHWA's interim guidance on Mobile Source Air Toxics in NEPA documents.
- **Draft Section 6002 Coordination Plan Template -** The draft coordination plan template includes the suggested revisions from the December 2006 TEAC meeting and incorporates comments from USACE. USEPA provided its comments on the coordination plan template in writing on 2/13/07, thus allowing insufficient time to incorporate into February's TEAC meeting. NCTA will revise the template based on discussions and circulate via email for review. The template will be discussed again at the April 2007 TEAC meeting, if necessary.

New Action Items:

- Agencies to review minutes from January 17 and January 25 TEAC meetings and provide comments before March 2007 meeting.
- Agencies to review minutes from December 15th TEAC meeting and provide comments. The minutes will be finalized at the March TEAC meeting.
- Agencies to provide comments on draft Section 6002 Coordination Plan template and project specific coordination plans by March 1, 2007.
- Agencies to provide contact information that will be included as part of the Project Specific Coordination Plan.
- NCTA will revise and circulate the revised Section 6002 Coordination Plan Template via e-mail, based on the Agencies' comments.
- NCTA to post meeting materials to the TEAC website two weeks prior to the meeting.

Resolutions:

- Snapshot updates will be in the form of an email or website update only. No presentations or discussions will occur.

Triangle Parkway Spotlight:

Additional Attendees:
David Chang, NCDOT - Hydraulics
Cindy Carr, Mulkey Engineers & Consultants
Wendee Smith, Mulkey Engineers & Consultants
Johnny Banks, Mulkey Engineers & Consultants
Michelle Fishburne, Mulkey Engineers & Consultants
Jay Bissett, Mulkey Engineers & Consultants

Presentation Materials:
- Meeting Agenda
- NCTA responses to NCDWQ comments regarding the Draft Conceptual Stream Relocation Plan, based on recent NCDOT guidance
- Table of updated wetland and stream impacts based on functional design
- Natural Resources Technical Report (February 2007)

General Discussion:

The purpose of this meeting was to review updated wetland/stream impacts, discuss the Natural Resources Technical Report (NRTR), discuss proposed mitigation through NCEEP, review USACE Public Notice requirements, and review comments received at Western Wake Parkway Citizens Informational Workshop.

- *Review Agency Comments and Coordination since January 17, 2007*
  - At the January 17, 2007 TEAC meeting, information was presented by NCTA regarding an evaluation of on-site mitigation opportunities.
  - NCTA received written comments on Draft Conceptual Stream Relocation Plan from DWQ and has developed written responses.
  - Comments were received via e-mail from EPA, WRC and USFWS with no objection to NCTA using NCEEP to provide required compensatory mitigation needs.
  - NCTA briefly reviewed the questions and responses to the DWQ letter contained in Handout 1.
  - The NCTA met with staff from DWQ and USACE in the field on February 6, 2007 to review the stream evaluated in the Draft Conceptual Stream Relocation Plan report.

- *Review Overview of February 6, 2007 Site Visit:*
  - At the January 17, 2007 TEAC meeting, information was presented by NCTA regarding an evaluation of on-site mitigation opportunities. Based on this information, NCTA proposed to use EEP for any compensatory mitigation needs due to unavoidable impacts.
  - There is a relatively mature tree buffer along the existing stream east of the proposed project corridor. Additionally, there are existing sewer lines that run along both sides of the stream. The figures included with the NCTA response to NCDWQ (Handout 1) show the approximate location of the existing sewer lines relative to the stream.
  - There are some sections of perennial streams being filled by the project that will require relocation of the stream. The NCTA will evaluate opportunities for natural channel design at these locations. If the relocated streams can stabilized in a natural channel design, then it will be done for the relocated sections.
  - If natural channel design is used for the relocated stream sections, NCTA will request mitigation credits for that length of stream.
  - As requested by NCDWQ, NCTA will incorporate restrictions into the construction contract to limit clear cutting and preserve the existing natural buffer along Burdens Creek.

- *Review of Wetland and Stream Impacts - Handouts 2 and 3:*
  - As requested, NCTA will incorporate restrictions into the construction contract to limit clear cutting and preserve the existing natural buffer along Burdens Creek.
  - NCTA has updated the wetland and stream impacts table using the most recent impact calculation guidance from NCDOT. The NCDOT guidance requires using a 40 foot clearing limit for functional design. The previous version of the impact table assumed a 10 foot clearing limit. The change

was made to be consistent with NCDOT policy on calculating impacts. Additionally, the impacts have also been evaluated by a biologist
  - Temporary impacts were discussed. The USACE noted that relocated streams should not be identified as temporary impacts. However, impacts at the proposed run-around at NC 54 are considered temporary. The impact table in the EA will be revised to show the impacts at the relocated stream as permanent.
  - Using the 40 foot clearing limit, there are still less total impacts with the split diamond interchange option than cloverleaf interchange option. Wetland impacts are the same for both interchange options.
  - NCTA is still reviewing the toll facilities proposed for the ramps to and from the Northern Wake Expressway interchange. One existing stream under the Northern Wake Expressway may be impacted in the southeast quadrant of the interchange where it comes out of a culvert pipe. The existing culvert pipe might need to be extended.
  - In order to connect with the existing NC 147 facility, the proposed project will also add an additional northbound lane in the NC 147 median between I-40 and Cornwallis Road. Based on the current functional designs, no additional stream or wetland impacts are anticipated as a result of this. NCTA is also evaluating the toll traffic projections and capacity analyses to determine potential operational enhancements on intersecting facilities. These improvements are still under consideration, but may include extending the transitional sections further east and west on Hopson to provide effective operations. There do not appear to be any wetlands or streams within this potential enhancement area. Consequently, no additional impacts are anticipated as a result.

- *Discussion of NRTR:*
  - NRTRs were delivered to the review agencies on Friday, February 9, 2007.
  - No protected species found during field studies in the NRTR study area.
  - One protected species (Bald Eagle) determined as a May Affect-Not Likely to Adversely Effect. The 1000-foot study area includes a stream from the lake at Sony Ericsson that contains habitat for the Bald Eagle. NCTA has discussed this habitat with the US Fish and Wildlife Service and they do not have a concern. The US Fish and Wildlife Service expects the Bald Eagle to be de-listed. The Bald Eagle is now scheduled for de-listing in June 2007.
  - Natural heritage area (Earle's blazing star) is located along Jenkins Road. Part of that area will be impacted by the proposed project.
  - Agencies agreed to provide comments on the NRTR by March 7, 2007. If NCTA does not receive comments by March 7, the study team is to assume that the agencies have no comments.

- *USACE Public Notice:*
  - Discussed coordination with the USACE regarding information needed for public notice to be concurrent with the EA comment period.
  - USACE recommended using same steps as NCDOT when they do public notice.
  - The NCTA plans to submit information for public review in letter format. This information will include condensed description of project that will match information in the EA. Tables will be provided to compare stream, wetland and vegetative community impacts. Summary description of prospective impacts under alternatives will be provided. Summary of standard agency comments will be provided. Summary of public comments will be provided. NCTA will also provide schematic design drawings of interchange alternatives at Hopson and Davis Drive.
  - Permit drawings will not be available at the time of the public notice.
  - USACE recommended for NCTA to fax drawings of the impact locations to them, so they can make sure they will be appropriate for public notice. They need to be able to be reproduced legibly in black and white.

- *General Comments:*
  - It has not been determined if Mulkey or the Design Build team will prepare the permit application.
  - Construction contract award scheduled for late 2007 or early 2008.
  - The USACE asked when NCTA will be ready to discuss minimization of impacts for the proposed alignment. NCTA stated that it believes it has minimized impacts as much as possible for the current functional designs. NCTA will be quickly moving into preliminary design. NCTA is targeting having the preliminary

Turnpike Environmental Agency Coordination (TEAC) Meeting

MEETING MINUTES

Date: October 17, 2007
9:00 am to 10:30 am
NC Turnpike Authority Office Building Ground Floor Conference Room (G-13)

Project: STIP U-4763B Triangle Parkway

Triangle Parkway Spotlight:

Attendees:

Eric Alsmeyer, USACE
Travis Wilson, NCWRC
George Hoops, FHWA
Donnie Brew, FHWA
Jennifer Harris, NCTA
Wally Bowman, NCDOT–Division 5
Tim McFadden, NCDOT–Alt. Delivery
Nicole Hackler, NCDOT–Alt. Delivery
Nilesh Surti, NCDOT–Alt. Delivery
Tony Houser, NCDOT–Roadway Design
Anne Redmond, HNTB
Nathan Phillips, HNTB
Adin McCann, HNTB
Elizabeth Scherrer, EcoScience
Jay Bissett, Mulkey
Lisa Warlick, Mulkey
Cindy Carr, Mulkey
Johnny Banks, Mulkey
Michelle Fishburne, Mulkey

Additional Attendees: (October 18, 2007)

Rob Ridings, NCDENR-DWQ
John Hennessy, NCDENR-DWQ

Presentation Materials: (All materials except draft public hearing maps have been posted on the TEAC website)

- Meeting Agenda
- Full size and half-size draft public hearing maps
- Handout 1 – Wetland and Stream Impact Table
- Handout 2 – Figures - Preliminary Design Wetland and Stream Impacts
- Handout 3 – NC 540 Stream and Wetland Impact Table
- Handout 4 – NC 540 Figure - Streams and Wetland Impact
- Handout 5 – Qualitative Indirect and Cumulative Effects Summary

Purpose:
The purpose of this meeting was to provide a project status update, discuss avoidance and minimization (i.e., Merger Concurrence Point 4A) based on the preliminary design, discuss the impacts associated with the widening of eastbound NC 540 between NC 55 and Triangle Parkway, and review the qualitative indirect and cumulative effects (ICE) report.

General Discussion:
The following information was discussed during the meeting:

- **Project Status Update –** An update on the project status was provided to the meeting attendees. This update included the following information on the current project schedule, as well as the evolution of the Purpose and Need Statement through the project development process.
    - Project Schedule – The NCTA is currently finalizing the Draft Environmental Assessment (EA) for review by FHWA and NCDOT. The NCTA plans to publish/distribute the EA in December 2007. It is anticipated the public hearing will be held in February 2008. If appropriate, the Finding of No Significant Impact (FONSI) will be signed and distributed in May 2008. The preliminary designs are under review by NCTA and NCDOT. Comments on the designs are due in the next few weeks.
    - Purpose and Need – The Purpose and Need statement for the project has evolved over the project development process. The primary components of the Purpose and Need currently include the following:

        - Improve commuter mobility, accessibility, and connectivity to Research Triangle Park (RTP) employment centers;
        - Reduce congestion on existing north-south routes that serve the Triangle region, primarily NC 55 and NC 54.

        An additional benefit from the project includes the substantial reduction in traffic volumes on I-40 east of NC 147.

- **FHWA / NCDOT Coordination –** During the past several months NCTA has coordinated closely and extensively with FHWA and NCDOT concerning design year (2030) traffic operations and design considerations for the project. Based on the results of Highway Capacity Software (HCS) analyses, both FHWA and NCDOT expressed concern with future traffic operations along Triangle Parkway, particularly where the Triangle Parkway would tie to NC 147 at I-40 and NC 540. In response to these concerns, NCTA conducted supplemental traffic analyses using CORSIM micro-simulation software to analyze the following design considerations:

    - Flyover from northbound Triangle Parkway to westbound I-40
    - Widening of westbound and eastbound I-40 between NC 55 and NC 147/Triangle Parkway
    - Widening along northbound NC 147 from I-40 to past the Cornwallis Road interchange
    - Number of lanes on the Triangle Parkway mainline – 6 lanes versus 8 lanes
    - Widening of NC 540 eastbound and westbound lanes between NC 55 and Triangle Parkway and widening of flyover from eastbound NC 540 to northbound Triangle Parkway
    - Kit Creek Road Connector – grade separation over Triangle Parkway
    - Toll collection facility on NC 540 between NC 55 and Triangle Parkway

    Both NCDOT and FHWA consider CORSIM as an acceptable tool for analyzing system-level traffic operations. In contrast to the HCS software, CORSIM considers all locations on a network simultaneously. Evaluating the network facilities allows CORSIM to assess the effect of congestion building up at one location, and its resulting impacts on capacity at other locations. Therefore, CORSIM is generally considered better-suited to recognize and evaluate the impact from adjacent network locations and has the ability to consider the capacity constraints – that is, congested conditions – that exist on other roadways in the network. The micro-simulation analysis was intended to assist in determining the design year interchange operations for the three freeway facilities (I-40, NC 147/Triangle Parkway, and I-540/NC 540) within the traffic study area. The animated views of the CORSIM micro-simulation analysis were shown to the meeting attendees. The following points were discussed during this presentation of the animated views:

    - The CORSIM micro-simulation analysis used the same 2030 traffic projections as the HCS analysis.
    - The heaviest traffic volumes during the AM peak hour were likely a reflection of trips leaving Raleigh and traveling toward RTP.
    - The CORSIM analysis focused on the study area interchange operations, particularly in the area of the Triangle Parkway. The CORSIM analysis indicated the Triangle Parkway interchange

connections would work better than indicated with HCS analyses. The NCTA noted the difference in the results of the HCS and CORSIM analyses was because the network is so over-saturated in 2030 that the projected traffic volumes can't make it to their intended destinations during the analyzed peak hour.

- NCDOT commented that it was currently evaluating a project to add an additional lane on the exit ramp from I-540 southbound to I-40 westbound. This lane would then extend along I-40 westbound to the Page Road interchange. NCDOT was working to identify funding for this project.
- Traffic on I-40 east of NC 147 is reduced in the year 2030 with the construction of Triangle Parkway. Traffic on I-40 west of NC 147 increases in the year 2030.
- In the year 2030, traffic at the NC 55/NC 540 interchange is not getting to Triangle Parkway because of the capacity constraints on NC 540. The two-lane entrance ramp to eastbound NC 540 from NC 55 has heavy traffic also. The lane reduction from the NC 55 entry ramp to eastbound NC 540 causes conflicts; in addition, more traffic wants to exit to northbound Triangle Parkway than wants to remain on eastbound NC 540.
- NCTA evaluated alternatives to extend the outside lane of the NC 55 entrance ramp to eastbound NC 540. The additional lane length improved operations in the year 2030; however, no matter where the lane reduction occurred, it slowed traffic with the same result. Maintaining the outside lane as an auxiliary lane between NC 55 and Triangle Parkway proved to be the best design year operational solution. Consequently, as part of the Preferred Alternative, the NCTA proposes to widen existing eastbound NC 540 by one-lane and widen the existing flyover ramp from eastbound NC 540 to northbound Triangle Parkway by one lane. This would result in a 3-lane flyover ramp.
- Based on the CORSIM analysis, it was concluded that traffic operations at the existing interchange configuration at NC 147 and I-40 will be acceptable in the year 2030 with the construction of the Triangle Parkway project. Consequently, the flyover ramp from northbound Triangle Parkway to westbound I-40 and the widening of I-40 between NC 55 and Triangle Parkway were not determined necessary to provide adequate traffic operations in the 2030 design year.

- **Preferred Alternative –** Based on the results of the CORSIM micro-simulation and the coordination process with FHWA and NCDOT, the following design considerations have been identified as part of the Preferred Alternative for the project:

  - Widening along northbound NC 147 past the Cornwallis Road interchange – Functional designs for the extension of a lane within the median on northbound NC 147 toward Cornwallis Road were shown to the agencies at the last TEAC meeting in February 2007. In order to preserve the integrity of traffic operations, the NCTA is proposing to extend the median widening on northbound NC 147 beyond the Cornwallis Road exit ramp as part of the Preferred Alternative. The widening of northbound NC 147 takes place within the right of way and does not have any stream or wetland impacts. It was noted that the Durham-Chapel Hill-Carrboro MPO Long Range Transportation Plan (LRTP) includes a project to improve NC 147 from I-40 to Alston Avenue to a 6-lane facility by 2030.

  - Construct Triangle Parkway as a 6-lane facility – The CORSIM micro-simulation traffic analysis revealed 8-lanes were not needed initially. However, once STIP Project U-4763A (i.e., "McCrimmon Connector") is constructed, 8-lanes will be needed on the Triangle Parkway. The McCrimmon Connector is included in the fiscally constrained Capital Area Metropolitan Planning Organization (CAMPO) LRTP as part of the 2030 network. The widening of Triangle Parkway to 8-lanes would need to be studied as part of that project. The current design for Triangle Parkway has a 46-foot median that can accommodate widening into the median for an 8-lane section.

  - Widening of NC 540 eastbound and westbound and widening of the flyover from eastbound NC 540 to northbound Triangle Parkway – The CORSIM micro-simulation analysis showed that widening eastbound NC 540 and the flyover ramp to northbound Triangle Parkway will have a noticeable improvement on traffic operations in the design year. Consequently, the NCTA has identified this component as part of the Preferred Alternative for Triangle Parkway. However, because the need for this additional widening and interchange improvement is not until approximately the year 2024, this component of the project will not be part of the initial construction. NCTA anticipates that new environmental documentation would need to be done in

the 2020 timeframe for the improvements to eastbound NC 540 and the interchange flyover ramp to northbound Triangle Parkway.

The results of the preliminary noise analysis for the widening of eastbound NC 540 indicate there are traffic noise impacts to adjacent receptors in the 2030 design year. However, based on the NCDOT Traffic Noise Abatement Policy, mitigation for these impacts is not considered reasonable.

- Kit Creek Road Connector – Kit Creek Road was a dirt road between Davis Drive and Church Street prior to construction of NC 540. The connection was severed as a result of the NC 540 construction. Currently, the NC 540 interchange allows direct access to Davis Drive. This configuration was constructed by NCDOT as an interim connection until the Triangle Parkway was constructed. As part of the EIS conducted by NCDOT for STIP Project R-2000, NCDOT coordinated with the Town of Morrisville and agreed that Kit Creek Road would be re-connected when Triangle Parkway was constructed. This re-connection would be provided via a bridge over Triangle Parkway. The Kit Creek Road bridge over Triangle Parkway would re-connect Kit Creek Road between Church Street (east) and Davis Drive (west) and could potentially increase traffic through several large tracts of land and an existing neighborhood. Based on the raw output from the Triangle Regional Travel Demand Model, it is estimated that approximately 20,000 cars in 2030 would utilize the Kit Creek Connector. Since Kit Creek Road is a subdivision road and is not classified as a minor or major thoroughfare, there is concern over the feasibility and consistency of this connection with past planning efforts.

  NCTA met with the Town of Morrisville and Kit Creek Road area residents to discuss ways to minimize the potential impacts to the residents. Several tracts of land in this area are owned by a large African-American family which has owned that property since the 1800's. A major subdivision called Kitts Creek is located adjacent to the project. Kit Creek Road would cross Triangle Parkway and connect as a main road through this subdivision.

  Kit Creek Road within the Kitts Creek subdivision is a very low capacity road. Through much of the subdivision, it is a divided roadway with one-lane in each direction. Located between the pair of one-way roads are community facilities such as a pool, clubhouse, and playground. One resident would be relocated as a result of constructing the Kit Creek Connector.

  In the Triangle Parkway EA, the Kit Creek Road Connector will be identified as part of the Preferred Alternative. However, the intent is to show this connection to the public for comment and to gather more information to ensure the design is appropriate. Including this connector as part of the Preferred Alternative will be re-evaluated pending public comments.

  A recommendation was made by NCDOT to make sure the bridge at Kit Creek Road, if built, include the additional length needed to span all existing and future lanes required by the construction of TIP Project U-4763A. One estimate for this length included an additional 20 feet on each side. It is anticipated that this design modification would not change the impacts to the human and natural environment.

- Toll collection facility along NC 540 – There will be a toll collection facility constructed to collect tolls along NC 540 between NC 55 and Triangle Parkway. NCTA will develop the appropriate documentation to evaluate potential impacts to the human and natural environments. The NCTA is analyzing "cashless" options along Western Wake Freeway, NC 540, and Triangle Parkway. A final decision on the use of cash lanes may not be made before completion of Triangle Parkway EA. The Triangle Parkway EA currently reflects the preliminary designs with cash lanes at the ramp toll plazas. Cash lanes are considered the worst case scenario from an impact standpoint for toll facilities. The impacts will be reduced if NCTA decides to eliminate the cash collection facilities and have only electronic toll collection.

- **Avoidance and Minimization –** Handout 2 shows the wetland and stream impact figures for the Triangle Parkway project between NC 540 and I-40. The impact figures have been revised since the last meeting based on the completion of preliminary design. Because preliminary designs were now available, the

assumed clearing and grubbing limits beyond the slope stake line have been reduced from 40 feet to 25 feet.

Currently, there are 1.809 acres of wetlands impacted by the preliminary design versus the 1.94 acres previously identified with the functional designs. Streams impacts are now approximately 3,852 linear feet of perennial streams versus approximately 4,506 linear feet identified with the functional designs. NCTA has worked to incorporate avoidance and minimization measures throughout the development of the project, including both the functional and preliminary designs. The following avoidance and minimization measures have been incorporated into the preliminary designs:

- Retaining Wall at EPA Property – There is a retaining wall proposed so the alignment could be pushed as close as possible to EPA without getting on their property and requiring acquisition of additional right-of-way. NCTA cannot condemn federal property and EPA has already indicated they are not a willing seller. If the retaining wall was not incorporated into the project designs in the area of the EPA property, there would be an additional 0.57 acres of wetland impacts, plus approximately 2,450 feet of impacts to the adjacent perennial stream. The retaining wall facilitates minimizing longitudinal impacts to the adjacent stream.
- Hopson Road/Davis Drive Interchange Configuration – The selection of the split diamond interchange configuration as the preferred design option instead of the half-clover interchange configuration reduced impacts to perennial streams by approximately 198 linear feet.
- Triangle Parkway Bridge over Burdens Creek – Bridging Triangle Parkway over Burdens Creek reduced wetland impacts by approximately 0.22 acres.
- Retaining Wall at NC 540 Ramp Toll Plaza – The inclusion of a retaining wall on the westbound NC 540 ramp to northbound Triangle Parkway in the area of the toll plaza reduced perennial stream impacts by approximately 600 linear feet.
- After incorporation of all the above referenced avoidance and minimization measures into the preliminary designs, the total impacts for Triangle Parkway, including the improvements to NC 540 that will be shown in environmental document, are 1.917 acres of wetlands, 3,993 linear feet of perennial streams, and 3,876 feet of intermittent stream.
- Based on the geotechnical recommendations for this area, the ability to use steeper slopes is limited. Due to poor soil conditions in the project area, the geotechnical recommendations for the project specified four to one (4:1) or flatter side slopes in areas with cut heights in excess of 10 feet to ensure slope stability.

- **Schedule Discussions**
  - NCTA anticipates submittal of the permit applications to the USACE and NCDENR-DWQ in January 2008
  - The Design-Build (D-B) team will be responsible for any required permit modifications. The D-B project timeline was discussed; and date provided: *(Note: The following dates were updated following the October 17, 2007 TEAC meeting and are subject to change.)*
    - Advertise D-B project – December 2007
    - Short-list D-B teams – January 2008
    - Select/Award D-B team – May 2008

- **Permit and Rapanos Form Discussions**
  - Mulkey is preparing the permit application based on the preliminary designs and 30% hydraulic designs. The 30% hydraulic designs will be available for agency review at the next TEAC meeting in November. The Design-Build Team will be responsible for any future permit modifications needed for future design changes.
  - The USACE noted the new regulation requiring Rapanos Forms for each impacted wetland site. After USACE reviews the forms, USACE has to submit these forms to EPA who will require a 15-day review period. The USACE noted that they can not issue the permit until the 15-day EPA review period has passed.
  - The USACE noted that they are currently working on establishing a process for contacting property owners with jurisdictional wetlands on their property.

- **Eastbound NC 540 Functional Design**

- Wetland and stream delineations of two wetland sites were completed as part of STIP Project R-2000 AA and AB. These prior wetland delineations were utilized to estimate impacts as a result of widening eastbound NC 540 and adding the third lane to the flyover from eastbound NC 540 to northbound Triangle Parkway. As stated previously, the NCTA has identified this component as part of the Preferred Alternative for Triangle Parkway. However, because the need for this additional widening and interchange improvement is not until approximately the year 2024, this component of the project will not be part of the initial construction. Consequently, the impacts associated with widening eastbound NC 540 and the flyover will not be included in the permit applications.
- The designs along NC 540 are at a functional level. In keeping with the NCDOT protocol for impact calculation, clearing and grubbing limits are estimated to extend 40 feet beyond the slope stakes to calculate stream and wetland impacts.
- Handouts 3 and 4 were reviewed showing tables and maps of wetland and stream impacts associated with the NC 540 modifications. The impacts to wetlands will be approximately 0.108 acres and the impacts to perennial streams will be approximately 141 feet. There are no intermittent streams being impacted by the widening of eastbound NC 540.
- Total impacts for Triangle Parkway, including the improvements to NC 540 that will be shown in environmental document, are 1.917 acres of wetlands, 3,993 linear feet of perennial streams, and 3,876 feet of intermittent stream.

- **Qualitative Indirect and Cumulative Effects (ICE) Report**
  - Handout 5 was discussed. The Community Impact Assessment (CIA) and Qualitative Indirect and Cumulative Effects (ICE) documents are still under review by NCDOT, FHWA, and NCTA. Once they are finalized, they will be posted on the TEAC website.
  - The Future Land Use Study Area (FLUSA) was developed using NCDOT and NCDENR guidance, as well as the characteristics of the Triangle Parkway project. The Triangle Parkway is proposed to have full control of access. Triangle Parkway has been part of the RTP master plan since its inception in the late 1950's. The majority of the project alignment is contained within a corridor reserved by Research Triangle Foundation.
  - In order to confirm the FLUSA boundary definition, several interviews were held with planners from the City of Durham, Durham County and the Towns of Morrisville and Cary. Additional meetings were held with the Research Triangle Foundation which manages the Research Triangle Park. Two field visits were also conducted to confirm the boundary definition and characteristics of the FLUSA.
  - The study area is rapidly urbanizing. There is development occurring throughout the area. This development includes commercial properties, as well as an upswing in residential development.
  - Within the Extended Demographic Area, there has been an approximate 117% growth in population between 2000 and 2007. New businesses are moving into the area and existing businesses are expanding. Extensive planning to account for this tremendous growth has been done by RTP and the surrounding municipalities.
  - There are development restrictions associated with the Jordan Lake Water Supply Watershed. Some of the regulations that are there restrict some development and oversee the existing development. One named 303(d) stream, Northeast Creek, is within the FLUSA boundary shown in Handout 5.
  - Floodway and floodplain protection is in effect throughout the area. Sedimentation and Erosion Control guidelines are in place, as well as federal and state Section 401 and Section 404 permitting requirements. USACE noted there were also local buffer rules (e.g., Wake County, Town of Morrisville, and Neuse River Basin) in effect within the FLUSA.
  - A number of indirect and cumulative effects assessments have been conducted for this area. This includes the Secondary and Cumulative Master Mitigation Plan prepared by the Town of Cary, along with the ICI documents prepared for Western Wake Freeway and Northern Wake Expressway. The Triangle Parkway project is identified and considered in all of these assessments.
  - NCTA stated that a quantitative ICE assessment was completed for the Western Wake project. The assessment included a PLOAD water quality modeling analysis for two sensitive watersheds in the southern portion of the FLUSA for STIP Project R-2635. The assessment found there was minimal potential for indirect and cumulative effects to water quality within the study area.

- The covenants within RTP in Durham require no more than 15% of the total area of the tract to be covered with buildings. The Wake County portion of RTP allows up 30% coverage including buildings, driveways, parking, loading, and storage areas.
- There are economic benefits to RTP with the improved transportation infrastructure provided by Triangle Parkway.
- There is the potential for indirect and cumulative effects to occur as a result of the Kit Creek Road Connector. STIP Project R-2000 acquired approximately 8 acres of land from an extended African-American family that has been established in the Shiloh community since the 1800s. One member of the family is very involved with the Town of Morrisville and is on the Town Council and Planning Board. NCTA met with representatives of the family and they understand that the connection improves east-west connectivity. The family is in support of the Triangle Parkway and the Kit Creek Road Connector. They have requested that NCTA look for ways to try to minimize harm to them and possibly avoid the residential relocation resulting from the Kit Creek Road Connector.
- The service road between Hopson and Davis Drive does not provide new access to adjacent properties. Most of the project is within the corridor reserved by RTF. Of the 168 acres needed for the construction of the project, approximately 112 acres are owned by RTF. Most of the available land is near interchanges. Some of them are under development or in the process of going through the permitting.
- Growth is likely to occur with or without the construction of the Triangle Parkway project.
- NCTA and FHWA believe the qualitative analysis completed is sufficient documentation to satisfy the ICE assessment for the Triangle Parkway project.
- USACE and NCWRC believed the analysis was appropriate and noted that the discussion would need to be confirmed with NCDENR-DWQ.

- **Meeting with NCDENR-DWQ Staff on October 18, 2007 at 9:00 a.m.**
  NCTA presented the same information to staff from NCDENR-DWQ the following morning at 9:00 am. NCDWQ offered the following comments on the information presented:

  - NCTA stated that it was considering elimination of the cash collection facilities to minimize impacts associated with candidate toll projects. NCDENR-DWQ stated that if NCTA were to select "cashless" tolling, the cash collection facilities on the NC 540 ramp could then be removed. It was noted that the proposed retaining wall on the NC 540 interchange ramp would no longer be included with the project if the cash collection facilities were removed.
  - NCDENR-DWQ requested to take the draft public hearing map and the wetland and stream impact handouts for review. NCDENR-DWQ will provide comments on avoidance and minimization by November 9, 2007.
  - NCDENR-DWQ stated that removal of cash lanes in future could allow for impacted areas to be restored for purposed of receiving mitigation credits. This approach would need to be confirmed with the USACE. The mitigation credit resulting from this restoration could possibly be used for other NCTA projects or sold to NCEEP. NCTA noted that the toll collection facilities on Triangle Parkway were located with the intent to avoid and/or minimize impacts to wetlands and streams.
  - NCDENR-DWQ stated that it agreed with findings of qualitative ICE assessment. NCDENR-DWQ stated that it would like an opportunity to review the Western Wake ICE assessments prior to finalizing its comments. However, it is generally believed that the qualitative ICE assessment and its conclusions are appropriate for the Triangle Parkway project and that no additional ICE assessments will be required for the project.
  - NCDENR-DWQ noted that there were proposed changes in the Jordan Lake Reservoir rules that could change the way NCTA deals with stormwater and impacts on this and other NCTA projects.
  - NCDENR-DWQ noted the earliest the rules could go in effect is May or June 2008. If permit applications are completed by this time, then applicants will not have to follow new rules. However, permit modifications requested after the new rules are passed would be required to include any modifications needed to adhere to the new rules.
  - If the Section 401 permit expires, the whole project would likely be subject to the new Jordan Lake Reservoir rules. It was noted that the Triangle Parkway project will require an Individual Permit (IP). Based on the current schedule, the receipt of the permit is anticipated to occur in May/June 2008. The typical duration of an IP is 5 years.
  - Any modifications to the Triangle Parkway permit will need be coordinated with NCDENR-DWQ to include any changes required by the new Jordan Lake Reservoir rules.

- **Next Steps**
  - NCTA requested comments on the avoidance and minimization, the NC 540 widening component of the project and the qualitative ICE assessment by November 9th. NCTA provided the USACE and NCDENR-DWQ with copies of the draft hearing maps to assist them in their review of the avoidance and minimization efforts.

- **New Action Items:**
  - Agencies will provide written comments on avoidance and minimization measures by November 9, 2007.
  - NCTA will distribute the 30% hydraulic plans to the agencies prior to the November 14, 2007 TEAC meeting. At the November 14, 2007 meeting, the NCTA will discuss the 30% hydraulic plans with agencies. The hydraulic design engineers will be present at the November meeting to review the plans and discuss comments with the agencies. The 30% hydraulic plans will be sent to the agencies for review prior to the meeting.
  - Agencies will provide written comments on the findings and conclusions of the Qualitative Indirect and Cumulative Effects (ICE) assessment by November 9, 2007.
  - NCTA will provide draft permit drawings for agency review by the December 5, 2007 TEAC meeting. *(Follow-up after Meeting: NCTA anticipates submitting the permit applications in February 2008.)*

Turnpike Environmental Agency Coordination (TEAC) Meeting

MEETING MINUTES
(DRAFT)

Date: November 14, 2007
9:00 am to 10:30 am
NC Turnpike Authority Office Building Ground Floor Conference Room (G-13)

Project: STIP U-4763B Triangle Parkway

Triangle Parkway Spotlight:

Attendees:

Eric Alsmeyer, USACE
Travis Wilson, NCWRC
Kathy Matthews, EPA
Gary Jordan, USFWS
Chris Militscher, EPA
Rob Ridings, NCDENR-DWQ
Brian Wrenn, NCDENR-DWQ
Renee Gledhill-Early, HPO
George Hoops, FHWA
Donnie Brew, FHWA
Jennifer Harris, NCTA
Tim McFadden, NCDOT–Alt. Delivery
Nicole Hackler, NCDOT–Alt. Delivery
Nilesh Surti, NCDOT–Alt. Delivery
Tony Houser, NCDOT–Roadway Design
Anne Redmond, HNTB
Jim Cooper, EcoScience
Richard Bollinger, Transite
Jay Bissett, Mulkey
Jeff Reck, Mulkey
David Bocker, Mulkey
Angela Parker, Mulkey
Cindy Carr, Mulkey
Johnny Banks, Mulkey
Bill Hood, Mulkey

Presentation Materials: (All materials have been posted on the TEAC website)

- Meeting Agenda
- 30% Hydraulic Design Plans
- Half-size draft public hearing map
- Handout 1 from October 17, 2007 TEAC Meeting – Wetland and Stream Impact Table
- Handout 3 from October 17, 2007 TEAC Meeting – NC 540 Stream and Wetland Impact Table

Purpose:
The purpose of this meeting was to provide a brief project status update, discuss any comments received on avoidance and minimization, proposed widening of eastbound NC 540 and qualitative Indirect and Cumulative Effects (ICE) results, and review the 30% Hydraulic Plans.

General Discussion:
The following information was discussed during the meeting:

- **Public Hearing Map Overview/Project Description -** Triangle Parkway is proposed as a six-lane tolled freeway facility with a 46 foot grassed median with 12-foot paved inside shoulders and 12-foot paved outside shoulders. Each of the proposed travel lanes is 12-foot wide. The project is located in southern

Durham County and western Wake County, predominately within RTP. The project includes the following improvements:

- Construction of a full control access road extending approximately 3.4 miles in length from NC 540 to I-40.
- Constructing a compressed split diamond interchange between Davis Drive and Hopson Road with one-way frontage roads connecting Davis Drive and Hopson Road.
- Constructing dual bridges over Burdens Creek.
- Constructing toll plazas on the interchange ramps at Hopson Road.
- Constructing toll plazas on the ramp between westbound NC 540 and northbound Triangle Parkway and the flyover ramp between southbound Triangle Parkway and eastbound NC 540.
- Widening approximately 0.8 miles in the median of northbound NC 147 from I-40 to Cornwallis Road.
- Widening the outside lane of eastbound NC 540 by one-lane (The total length of the widening along NC 540 is approximately 1.3 miles).
- Widening the two-lane flyover ramp from eastbound NC 540 to Triangle Parkway to three-lanes.
- Widening the existing bridges on NC 540 over Davis Drive, Cisco Access Road and proposed Louis Stephens Road.
- Constructing the Kit Creek Road connector. (The Kit Creek Road connector, which would provide additional connectivity between Davis Drive and Church Street, is currently included as part of the Preferred Alternative at the request of the Town of Morrisville. A final decision on the construction of the Kit Creek connector will be made after all comments are received on this environmental document and through the public hearing process.)

- **Project Status Update –** An update on the project status was provided to the meeting attendees. This update included the following information:
    - Qualitative Indirect and Cumulative Effects (ICE) presentation and Avoidance and Minimization – Comments, issues or concerns on the ICE presentation and the Avoidance and Minimization discussion were requested at the October 17, 2007 TEAC Meeting by November 9, 2007. The NCTA did not receive any comments. If there are any comments, issues or concerns, please submit them to Jennifer Harris as soon as possible. The draft ICE assessment is currently being reviewed by NCDOT and FHWA. The report should be finalized within the next few weeks and will be made available on the TEAC website.

    - EPA questioned the review of hydraulic plans prior to the issuance of the Environmental Assessment (EA). The NCTA is using an expedited process to implement the project. FHWA and NCTA acknowledged that the team is proceeding at risk in order to meet an expedited schedule, and commented that if the plans changed based on the public hearing or comments received during the EA review period that those changes to the design plans would be revised and re-reviewed with the agencies. No approvals are final until the final NEPA document is completed and the 401 and 404 permits are issued. There will be additional opportunities for the environmental review agencies to provide comments prior to the submittal of the permit package. It should be noted this project has been screened out of the 404/NEPA Merger Process in July 2006.

    - The NCTA is aware of the concerns raised by the employees at the EPA facility located adjacent to the project. The NCTA has had numerous meetings with both EPA and NIEHS management and the employee's union representatives throughout the planning process to discuss their concerns regarding access to the campus and air quality at the daycare. EPA recommended that a chronology of coordination with EPA / NEIHS during the planning process be disclosed in the EA.

    - A quantitative Mobile Source Air Toxics (MSATs) Analysis is being prepared for the project and will be included in the EA. The preliminary Noise Report has determined that a noise wall is feasible and reasonable at the daycare facility located on the EPA property. A Design Noise Report will be prepared and completed prior to the Public Hearing to finalize the need for the noise wall. In addition, there is an environmental commitment in the EA and in the Design-Build scope of work to minimize the cutting of trees along the EPA property in the vicinity of the daycare.

    - NCTA and NCDOT will continue to evaluate the access to EPA at Hopson Road with the NCDOT after comments are received on the EA and after the Public Hearing. The current design includes a left-over at this intersection based on the project-level traffic analysis and NCDOT Roadway Design

Manual and Median Crossover Spacing Guidelines, which recommends a 1,200-foot minimum intersection spacing for divided highways without full control of access and posted speeds of 45 mph and less. Hopson Road is a NCDOT state maintained facility. Therefore, any decisions on access must be approved by NCDOT. The NCTA will include the information relating to the coordination completed with the EPA and NIEHS in the EA. Once completed, the EA will be available on the NCTA website.

- The EPA commented that studies show the noise wall should help mitigate the MSATs at the daycare. MSAT effects vary according to the time of year and are more of an issue during cool winter days. MSATs tend to hydrolyze (mix in with air and humidity), and effects are felt immediately adjacent to the roadway (within 100 feet). The daycare is approximately 10 to 12 feet above the elevation of the proposed roadway.

Review of the 30% Hydraulic Plans – Jeff Reck proceeded with the review of the 30% hydraulic plans for the project. The following is a discussion of each wetland or stream site being impacted by the project:

General

- All waters within the project are Class 'C' nutrient sensitive waters.
- The project falls within the Cape Fear River Basin.
- Grass Swale treatment will occur in multiple locations throughout the project in ditches where flat slopes can be maintained.
- Pre-formed scour holes will also be utilized as treatment measures.
- Proposed culverts will be buried 1 ft to provide for fish passage.
- Cross pipes in jurisdictional perennial streams will be buried 1 foot.
- Cross pipes in jurisdictional intermittent streams will be buried 1foot for culverts greater than 48 inches and 20% of the pipe diameter for culverts less than 48 inches in diameter.

(*The cross pipe topic was clarified after the meeting with NCDENR-DWQ & NCWRC via email* stating:

- *Cross pipes in jurisdictional perennial and intermittent streams will be buried 1 foot for culverts greater than 48 inches and 20% of the pipe diameter for culverts less than 48 inches in diameter.)*

Sheet 2-DET-1

- Details Sheet
  - All impacts shall be temporary.
  - Riprap at inlet of temporary culvert is proposed to provide positive drainage since the inlet is perched.
  - Stream NSL is considered permanent impacts currently, but needs to be changed to temporary stream impacts since culvert extensions will be removed and everything will be put back to existing conditions. The impacts table will also be revised to reflect this change.

Sheet 2-DET-2 (No Comments from Regulatory Agencies)

- No impacts

Sheet 4

- Culvert Crossing at Sta. 99+37 –L–
  - A single box culvert is proposed to match the channel shape
  - Riprap will be removed from channel bed per request.
- Culvert Crossing at Sta. 11+28 –Y5DR1–
  - Waiting on geotechnical information to determine if existing bottomless arch culvert can withstand additional fill
  - Current design shows proposed 9' x 6' box culvert to replace bottomless arch culvert (worst case scenario).
- Base Ditch
  - At grade

- Wetlands
  - Impacts at approx. Sta. 109+00 due to the roadway alignment.

General Comment: NCWRC noted not to put riprap in perennial channels for energy dissipation.

Sheet 5 (No Comments from Regulatory Agencies)

- Intermittent Stream
    - Approximately 200 ft of impacts at approx. Sta. 120+00

Sheet 6

- Culvert Crossing at Sta. 125+00 –L–
    - Can be built in the dry, without additional impacts to the stream.
    - 2 ft sill in culvert carrying "non" base flow.
    - Culvert is buried 1 ft
    - Request made to remove rip rap from channel bed

- Culvert Crossings at Sta. 142+53 –L– and Sta. 229+85 –Y1–
    - Can be built in the dry, without additional impacts to the stream.
    - 2 ft sill in culvert carrying "non" base flow.
    - Culvert is buried 1 ft
    - Grass-lined swales before direct discharge into culvert.
    - Concern about the channel between these two culverts

- USACE asked if the two culverts could be connected. NCTA stated that they could not because there would be too much direct discharge into the culverts, and the bridge limits the alignment options.
- At the request of USACE, NCTA plans to look at the detailed design for this channel prior to the next TEAC meeting in December to make sure the channel is stable. There is a lot of water flowing through the channel and there are two bends in the channel; these are both design concerns. The velocity of the channel at that site is 7.6 ft/s and the bed slope is 0.5%.
- There was a request by USACE to reinforce the channel as much as necessary, including adding riprap if needed.
- Wetlands
    - Assuming total takes for all wetlands
- Perennial Streams
    - There will be some perennial streams buried.
- Ponds
    - There was a question about impacts to the office park stormwater ponds shown on Sheet 6. NCTA stated that the current designs do not impact any of the stormwater ponds associated with the office parks on Sheet 6.
- General Comments
    - Remove "Drain Ditch" from the survey file throughout the entire project.
    - At approx. Sta. 241+00 –Y1– there is riprap in the jurisdictional stream that was permitted under TIP Project U-4026.

Sheet 7

- Perennial Stream
    - At match line for Sheet 6, approx. 75 ft of stream will be impacted. The stream turns to intermittent after that, and the whole area will be a total take.
    - Open channel flow with riprap will be added to the west side of the project to relocate the stream.
- Intermittent Streams at north side of Hopson Rd.
    - Adding a ditch to handle the flow. Ditch will be grass lined for the first half then rip rapped.

Sheet 8

- Intermittent Stream
  - From beginning of sheet to Sta. 185+00 –L– the intermittent stream will be a full take.
  - Relocating stream from the east side of the project to the west side.
- Perennial Streams
  - From Sta. 185+00 –L– to the end of the sheet the perennial stream will be a full take.

Sheet 9

- Perennial Streams
  - Impacts up to Sta. 191+00 –L–, after that we will no longer be impacting it
  - Riprap will most likely be added to that stream (only showing on the banks currently) due to the high velocity of the water exiting the 72" cross-pipe.
- 72" Cross-pipe
  - Look at energy dissipaters besides riprap.
  - USACE asked if a bend be added. NCTA stated that a bend could not be added because the amount of discharge and the size of the culvert create concern of debris potential at the bend. The overall skew angle will be looked at and revised if feasible.
- Wetlands
  - Fill slope into wetlands at approx. Sta. 204+00 –L–.
  - A 5 ft berm will be provided at the base of slope.
- General
  - Comment that traffic flow arrows appear to be reversed on some sheets.
  - NCDOT inquired if the wall could be moved back further from guardrail.

Sheet 10

- Wetlands
  - Wetlands from Sta. 207+00 –L– to 211+00 –L– will be total take.
  - Wetlands from Sta. 218 –L– to next sheet will be total take.

Sheet 11

- Wetlands
  - Bridge over wetlands
- There is a bent located in the wetlands
- USACE asked how much will be impacted due to access for construction. NCTA responded that there will be temporary impacts for the access and construction; the bent will be a permanent impact.
- EPA requested that the 340' bridge over the FEMA-regulated stream be documented as avoidance and minimization.

Sheet 12

- Culvert Extension on –Y3–
  - Culvert dropped at outfall to match scour hole
  - NCDENR-DWQ requested the removal of the riprap from the channel and instead using the NCDOT energy dissipater cell.

Sheet 13

- Culvert Extension
  - Extending existing 8' x 6' culvert
  - No riprap in channel
- Jurisdictional Intermittent Stream impacts on –Y4RPC–
  - Relocating stream (diverting it)
  - Riprap will be put on embankment

Sheet 14 (No Comments from Regulatory Agencies)

- Widening existing road
  - Sheet Flow into existing stream, no impacts
- Floodplain may be created by excavating embankment

Sheet 15 (No Comments from Regulatory Agencies)
- Widening existing road
    - Sheet Flow into existing stream, no impacts
- Floodplain may be created by excavating embankment

Sheet 16 (No Comments from Regulatory Agencies)
- Widening existing road
    - Sheet Flow into existing stream, no impacts
- Culvert Extension
    - No impacts
- Floodplain may be created by excavating embankment

Sheet 17
- Retaining wall on –YRPA– needed due to toll plaza - (worst case scenario if there are cash collection facilities instead of all electronic toll collection)
    - Might require extension of two culverts
- Sta. 40+00 –YBFLY– culvert extension (worst case scenario if there are cash collection facilities instead of all electronic toll collection)

Sheet 18 (No Comments from Regulatory Agencies)
- No proposed work
    - No impacts

Sheet 19 (No Comments from Regulatory Agencies)
- No proposed work
    - No impacts

Sheet 20 (No Comments from Regulatory Agencies)
- No impacts

Sheet 21 (No Comments from Regulatory Agencies)
- No impacts

Sheet 22 (No Comments from Regulatory Agencies)
- No impacts

Sheet 23 (No Comments from Regulatory Agencies)
- No impacts

Sheet 24 (No Comments from Regulatory Agencies)
- No impacts

Sheet 25 (No Comments from Regulatory Agencies)
- No impacts

Sheet 26 (No Comments from Regulatory Agencies)
- No impacts

Sheet 27 (No Comments from Regulatory Agencies)
- Permitted under U-4026

Sheet 28 (No Comments from Regulatory Agencies)
- No impacts

Sheet 29

- Intermittent Stream
  - 75 ft of stream will be buried
  - Existing 36" pipe at this location will be extended

Next Steps

- NCTA will review the draft permit drawing with the agencies

New Action Items:

- The NCTA will distribute the draft permit drawings to the agencies prior to the (December or January) TEAC meeting. At the meeting, the NCTA will review the permit drawings with the agencies. The hydraulic design engineers will be present at the meeting to review the drawings and discuss comments with the agencies. (Note: NCTA anticipates submitting the permit applications in February 2008.)

- Brian Wrenn will be representing NCDENR-DWQ from this point forward as Acting Supervisor since John Hennessy is no longer in this position.

Turnpike Environmental Agency Coordination (TEAC) Meeting

MEETING MINUTES

Date: December 5, 2007
9:00 am to 11:00 am
NC Turnpike Authority Office Board Room (Suite 400)

Project: STIP U-4763B Triangle Parkway

Triangle Parkway Spotlight:

Attendees:

Eric Alsmeyer, USACE
Kathy Matthews, USEPA
George Hoops, FHWA
Rob Ridings, NCDENR-DWQ
Travis Wilson, NCWRC
Steve DeWitt, NCTA
Jennifer Harris, NCTA
Julie Ryan, NCTA
Nicole Hackler, NCDOT–Alt. Delivery
Nilesh Surti, NCDOT–Alt. Delivery
Barney Blackburn, NCDOT-REU
Dewayne Sykes, NCDOT-RDU
Anne Gamber, NCDOT-Hydraulics
Anne Redmond, HNTB
Adin McCann, HNTB
Elizabeth Scherrer, EcoScience
Richard Bollinger, Transite
Jay Bissett, Mulkey
Michelle Fishburne, Mulkey
Jeff Reck, Mulkey
Cindy Carr, Mulkey

Presentation Materials: (All materials have been posted on the TEAC website)

- Meeting Agenda
- Half-size draft public hearing map
- Draft Permit Drawings
- Pre-Application Wetland Permit Impact Summary
- Handout 2 updated from November 14, 2007 TEAC Meeting – Natural Resource Impacts Figures
- Draft Minutes from the November 14, 2007 TEAC meeting

Purpose:
The purpose of this meeting was to provide a brief project status update, discuss any comments received on 30% Hydraulic Design Plans, review changes to the 30% Hydraulic Plans, and review the draft permit drawings.

General Discussion:
The following information was discussed during the meeting:

- **Project Status Update –** An update on the project status was provided to the meeting attendees. This update included the following information:
  - The EA is going through internal review and is expected to be signed in January 2008, with a public hearing held in March 2008.
  - FHWA and NCDOT will review the quantitative MSAT analysis which will be included in the EA.
  - Cash and cashless toll collection scenarios will be described in the EA. The cash toll collection plazas will remain in the EA for the evaluation of impacts since it provides a "worst-case" scenario

for right-of-way requirements; there are no differences in stream and wetland impacts between the two tolling scenarios.

- NCTA conducted additional coordination with the State Historic Preservation Office (SHPO) regarding the widening of eastbound NC 540 and the flyover ramp, as well as the extension of the NC 147 median widening north of I-40. Based on this coordination, the SHPO has stated that they do not anticipate any impacts to historic properties or archaeological resources within the limits of the Preferred Alternative. Consequently, no further studies will be performed. NCTA plans to conduct similar coordination with the USFWS.
- A quantitative Mobile Source Air Toxics (MSAT) analysis is currently underway. After the analysis report is reviewed by FHWA and NCDOT, the findings will be incorporated into the EA document.
- NCDOT provided their comments on the designs and the revisions are being incorporated into the EA and pubic hearing map.

USEPA commented that if the 404/401 permit application public notice is issued before they have reviewed a FONSI, the USEPA may recommend denial of the permit application in order to assure their concerns have been adequately addressed in the FONSI. The USEPA is concerned about having sufficient time to review the EA, make comments, and review the response to those comments prior to the permit being issued. USACE commented that the permit application public notice was being posted to coincide with the public hearing so that comments would be received concurrently. USEPA stated that under Merger process there are two opportunities to comment in response to public notice. USACE recommended submitting the permit application after approval of the FONSI as a means of avoiding USEPA's possible recommendation for denial of the permit. NCTA and Mulkey acknowledged there will be opportunity for USEPA to provide comment prior to approval of the 404/401 permit. NCTA stated that delaying permit application would result in an overall project implementation delay of two years. The regional air conformity determination assumes that Triangle Parkway is open by 2010.

The Rapanos determination forms are currently under internal review by NCTA. NCTA intends to distribute the Rapanos forms to the USACE prior to submission of the 404/401 permit application. The 30% Hydraulics Plans are currently under review by NCDOT. The plans have been reviewed in detail by the NCTA and its General Engineering Consultant, so it is believed that any comments will be minor in nature. NCTA stated that it would be prepared to discuss any spot changes at the next TEAC meeting in January. USACE commented that another meeting in January to review spot changes would not be necessary from their perspective. It was decided that any major changes to the drainage plans could be discussed directly with USACE and NCDENR-DWQ.

Review of the Draft Permit Drawings:

Jeff Reck proceeded with the review of the Draft Permit Drawings noting changes that had been made to the 30% hydraulic plans based on comments received at the November TEAC meeting. The following is a discussion of each wetland or stream site being impacted by the project:

General

- There are crossings at Burdens Creek, Kit Creek, and their tributary waters; all waters within the project are Class 'C' nutrient sensitive waters.
- There are no Water Supply Watersheds or 303(d) waters in the project boundaries.
- The project falls within the Cape Fear River Basin.
- Grass swale treatment will occur throughout the project in the median and in areas were flat slopes can be maintained.
- Rip rap has been removed from stream channels where requested.
- Pre-formed scour holes will also be utilized as treatment measures.
- Proposed culverts will be buried 1-foot to provide for fish passage.
- Cross pipes in jurisdictional perennial and intermittent streams will be buried 1-foot for pipes greater than 48 inches and 20% of the pipe diameter for culverts less than 48 inches in diameter.

Sheet 2-DET-1

- Site 15 (Sheet 9 of 83)
  - Remove "ditch" text at culvert inlet (south of - Y3 -).

Sheet 4

- Rip rap was removed from the stream bed and is now located above the ordinary high water level at the culvert outfall. Permanent impact calculations include rip rap placement downstream of the culvert. Temporary impact calculations include 10 feet beyond the proposed construction limits. Outlet and Inlet details will be included with the final permit drawings.
- Sheet 16 of 83, culvert will be buried one foot.

- Site 2 (Sheet 14 of 83)
  - Rip rap was removed from stream bed and is now located above ordinary high water level at culvert outfall. Permanent impact calculations include rip rap placement downstream of culvert. Temporary impact calculations include 10 feet beyond proposed construction limits. Outlet and Inlet details will be included with the final permit drawings.
  - Permanent wetland impacts include wetland area draw-down limits due to excavation. Mechanized Clearing limits extend 10 feet beyond the slope stakes. There is about 5.5 feet of Mechanized Clearing that is not included in the drawdown limits.
  - Sheet 17 of 83, culvert at STN 99 + 37 will be buried 1-foot for fish passage.
- Site 3 (Sheet 12 of 83)
  - Site 3: Define construction limits and add note to construction drawings for contractor to avoid direct wetland impacts (no clearing) at draw-down areas.
- General Comment
  - Plan Sheets 6, 7, and 12 show ditch locations where storm water treatment will occur.
  - EPA asked for level spreaders to be used where possible to dissipate energy. USACE commented that level spreaders are not normally required. NCDOT-Hydraulics stated that the use of level spreaders may be difficult due to topography.

Sheet 5

- Site 4 (Sheet 18 of 83)
  - Intermittent stream impact calculations include the area 10 feet beyond cut/fill slope.

Sheet 6

- Site 5 (Sheet 22 of 83)
  - Dual box culvert with sill will be buried one foot for fish passage.
  - Temporary impact calculations include area beyond culvert inlet headwall and at rip rap.
  - Lateral ditch will discharge directly to stream; ditch has rip rap due to high velocities. High velocities limit opportunities for treatment in this area.
  - 15-inch CSP pipe at steep slope has direct stormwater discharge due to grades.
  - Intermittent stream impact calculated as a total take.
  - Rip rap was removed from stream bed and is now located above ordinary high water level at culvert outfall. Permanent impact calculations include rip rap placement downstream of culvert. Temporary impact calculations include 10 feet beyond proposed construction limits. Outlet and Inlet details will be included with the final permit drawings.

- Site 6 (sheet 22 of 83)
  - Stream impacts occur at culverts, including impacts between back-to-back culverts.
  - Wetland impact calculated as a complete take.
  - Temporary impact calculation includes the area 10 feet beyond construction limits.
  - Sheet 24 of 83 shows wetland impacts calculated as total take.
  - Rip rap was removed from stream bed and is now located above ordinary high water level at culvert outfall. Permanent impact calculations include rip rap placement downstream of culvert. Temporary impact calculations include 10 feet beyond proposed construction limits. Outlet and Inlet details will be included with the final permit drawings.

- Site 7 (sheet 26 of 83)
  - Impacts from temporary fill in channel at extension of existing pipe.

- Site 8 (sheet 24 of 83)
  - Stream impacts calculated up to construction limits because of cut area for lateral ditch.
  - USACE requested that secondary impacts be avoided by including natural channel design structure in channel to prevent a headcut from developing in stream because of storm water flow off adjacent parking lot.
  - Mulkey noted that stream has areas of surface bedrock in channel; this should be confirmed and noted as it will prevent development of a headcut in the channel.
  - The impacts will be reduced to 10 feet beyond the construction limits of the proposed ditch.

- Site 9 (sheet 24 of 83 and Sheet 34 of 83)
  - Permanent impacts occur to entire stream length (both intermittent and perennial segments).
  - Majority of relocated channel (west side of – SR 2 –) is intermittent flow. Natural channel design is not required for relocated intermittent channels. Relocated channel will be rip rap because it is located in a steeper area upslope of existing location. [note: ditch profile is shown on Sheet 74 of 83.]
  - Mulkey noted that velocity control design considers (in sequence) use of V-ditch, grass-lined base ditch, check dam, and then rip rap. Steep topography and additional off-site drainage requires use of rip rap in grassed swale at this location.
  - NCWRC suggested that monthly site visits during construction might be a good solution to ensure erosion is not occurring. If grass is not being established, recommendations and adjustments can be made in the field.
  - The use of a pre-formed scour hole (PSH) at the end of the 60-inch pipe was requested by EPA. USACE noted that a 60-inch pipe is too large for use of pre-formed scour hole (PSH).
  - Primary roadway drainage will flow to a grassed swale created between – SR 2 – and – L – roadway.
  - Sheet 28 of 83 through Sheet 31 of 83 are culvert profiles. Culverts have sills and are buried one foot for fish passage.

- General Comments
  - EPA noted that hydraulic design plans will need to comply with NPDES permit requirements.
  - EPA requested that stormwater velocities be addressed in upland areas (where possible) before discharge occurs so that receiving water channel does not need to be armored with rip rap.
  - USACE noted that DWQ erosion control will require armor at stormwater outlets because of potential for channel failure.

Sheet 7

- Site 10 (Sheet 32 of 83 and Sheet 34 of 83)
  - This intermittent stream drains storm water from adjacent parking lot.
  - Permit drawings will clearly show rip rap in base ditches and application package to include design detail sheets.

- Site 11 (Sheet 36 of 83)
  - Permanent impacts occur to the intermittent stream segment in this location.

Sheet 8

- Site 11 (Sheet 38 of 83)
  - Stream NSD changes from intermittent to perennial flow beginning at STN 185 + 21. Permanent impacts that are a total take occur to both intermittent and perennial stream segments.
  - Storm water flow is being relocated through 48-inch pipe from right (east) side of roadway to ditch on west side of roadway.
  - At approximately STN 188, flow is relocated through 72-inch pipe from west side of roadway back to east side of roadway. This is to address grade and bedrock near surface and to mimic existing stream characteristics.
  - Lateral ditches between 48-inch pipe and 72-inch pipe are two foot deep with rip rap lined channel with rip rap. The back side of the cut slope will be rip rap lined to prevent failure from erosion at critical locations.
  - Existing CMP at power line crossing (near STN 180) is an existing impact and should not be included in permit impact calculations.
  - Sheet 42 of 83 shows the 72-inch pipe profile with outlet being buried one foot below existing channel elevation.

- General Comments
  - Ditch contour detail missing from permit drawing between approximately STN 188 and STN 194. The ditch contours will be added to the revised permit drawings.

Sheet 9

- Site 11 (Sheet 40 of 83)
  - The 72-inch pipe was realigned to better connect to the existing receiving stream channel (shown on Sheet 40 of 83). There is rip rap in the channel at the outfall to stabilize the channel.
  - USACE stated rip rap should not be above the existing channel elevation but should be excavated and keyed-into the channel.

- Site 12 (Sheet 40 of 83)
  - A meander bend of the stream that flows through wetland NWE is located at the toe of the slope at the draw-down limits of the wetland. The two ends of the stream will be connected by a ditch.
  - NCDOT-Hydraulics stated that they do no calculate draw-down effects for excavation in wetlands less than 1 foot.
  - Mechanized clearing in wetlands are calculated to be 10 feet beyond slope stakes.

Sheet 10

- Site 13 (Sheet 43 of 83)
  - Wetland impacts at NWD are a total take.

- Site 14 (Sheet 43 of 83)
  - Wetland impacts to NWC at Burdens Creek is a total take. This site continues to the left side of Sheet 45 of 83.

Sheet 11

- Site 14 (Sheet 45 of 83)
  - Continuation of the total take from wetland impacts at bridge end bent fill slope.
  - Permanent wetland impacts occur to NWH from bridge bent. Temporary impacts occur from construction.
  - Temporary stream impacts from placement of rip rap at top of bank occur at Burdens Creek where lateral base ditch ties into stream channel (northwest side of bridge). USACE states this impact can be calculated as square footage to waters rather than linear foot impact; mitigation will not be required.

Sheet 12

- Site 15 (Sheet 47 of 83)
  - Culvert extension will have energy dissipater pad and basin at outfall. Detail drawings for dissipater basin will be added to the permit drawings for the 404/401 permit application.
  - Storm water will be treated in median of roadway between approximately STN 236 and STN 245.

Sheet 13

- Site 16 (Sheet 50 of 83)
  - Temporary intermittent stream impacts from replacement of two existing cross pipes; the pipes will be buried one foot. Permanent impacts will occur where cross pipes are extended.

- Site 17 (Sheet 50 of 83)
  - Perennial stream impacts will occur from the extension of culvert under – Y4RPC – ramp.
  - Rip rap was removed from stream bed and is now located above ordinary high water level at culvert outfall. Permanent impact calculations include rip rap placement downstream of culvert. Temporary impact calculations include 10 feet beyond proposed construction limits. Outlet and Inlet details will be included with the final permit drawings.
  - Permit application will reference back to culvert profile sheet.

- Site 18 (Sheet 50 of 83)
  - Intermittent stream impacts occur from burying stream.

Sheet 29

- Site 18 (Sheet 54 of 83)
  - Continuation from Sheet 50 of 83. The existing exit ramp (Exit 273) to T.W. Alexander Drive will change from a T-intersection with a stop sign to a wider free-flow ramp. Fill slopes for the widened ramp will create intermittent stream impacts (shown near STN 20+50).
  - Storm water treatment will occur in the median at this location.

Sheet 56 of 83 through Sheet 83 of 83 are elevation profiles.

- **Previous Action Items:**
  - None

- **New Action Items:**
  - The permit application package will note any changes to hydraulic design that result from NCDOT Hydraulics Unit review.

  Mulkey will complete internal review of Rapanos jurisdictional determination forms and provide them to the NCTA for review by December 11, 2007. Rapanos forms will be provided to the USACE and DWQ prior to submittal of the 404/401 permit application package.

- **Resolutions:**
  - USACE anticipates that unless there are major design changes there is no need to review the permit drawings at the January 2008 TEAC meeting. USACE requested that NCTA itemize any changes made since the 30% hydraulic review and permit drawing review TEAC meetings. Any changes in culvert sizes resulting from the NCDOT review of the 30% Hydraulic Plans and draft culvert structure reports should also be noted and should not require another TEAC meeting.

- **Next Steps:**
  - The EA will be available for review in January 2008.
  - The 404/401 permit application will be submitted in late January/early February 2008.

Appendix E
Public Involvement

News Release
Meeting Notices
Local official Meeting Summary
Public Meeting Handout
Comment Form
Public Meeting Summary
Public comment Summary

NORTH CAROLINA
Turnpike Authority

News Release

Date: 6/7/06 Contact: Julia Jarema, 919-571-3006

NCTA AND NCDOT TO HOLD MEETINGS FOR TRIANGLE PARKWAY

RALEIGH—The N.C. Turnpike Authority and N.C. Department of Transportation will hold a public meeting later this month in the Research Triangle Park to discuss the proposed extension of N.C. 147 from Interstate 40 to McCrimmon Parkway.

Known as the Triangle Parkway, the median-divided facility will stretch 4.7 miles south of the interstate in Durham and Wake counties. The Parkway is currently under consideration for development as one of the state's first toll roads.

The open-house style meeting will be held between 4 and 8 p.m. on Tuesday, June 20, at the Sigma Xi Auditorium, 3106 East N.C. 54 in the Research Triangle Park.

No formal presentations will be made, and citizens are encouraged to come when it is most convenient during the time interval. Staff from both agencies will present maps and information on the alternatives to be studied in detail during the next phase of planning and design.

For more information, visit www.ncturnpike.org.

*****NCTA*****

North Carolina Turnpike Authority
5400 Glenwood Ave., Suite 400, Raleigh, NC 27612
919-571-3000 919-571-3015 Fax
www.ncturnpike.org

NORTH CAROLINA
Turnpike Authority

JOIN US FOR THE
TRIANGLE PARKWAY
PUBLIC MEETING

The N.C. Turnpike Authority and N.C. Department of Transportation will hold a public meeting to discuss the proposed Triangle Parkway that will extend from McCrimmon Parkway (SR 1635) near Morrisville in Wake County to I-40/NC 147 in Durham County. The Triangle Parkway is a proposed 4.5-mile, median-divided facility on new location. The Triangle Parkway is being considered for construction as a toll road.

NCTA and NCDOT staff will present information, answer questions and receive comments regarding the proposed project. The meeting will be an "open-house" style meeting. *There are no formal presentations; participants are encouraged to drop in at any time between 4:00 – 8:00 p.m.*

Tuesday June 20, 2006 **4:00 to 8:00 p.m.**
Sigma Xi Auditorium
3106 East NC 54

Note: NCTA will provide auxiliary aids and services for disabled persons who wish to participate in the meeting. For more information or to receive special services, call 919-851-1912 by June 13, 2006.

NORTH CAROLINA
Turnpike Authority

North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1578

Join us to discuss the
Triangle Parkway

June 20th
4:00 to 8:00p.m.
Sigma Xi
3106 East NC 54
Research Triangle Park, NC 27709

STATE OF NORTH CAROLINA
TURNPIKE AUTHORITY

MICHAEL F. EASLEY
GOVERNOR

1578 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1578

DAVID W. JOYNER
EXECUTIVE DIRECTOR

June 9, 2006

Subject: Notice of Local Officials Meeting regarding the
Triangle Parkway
North Carolina
TIP Project No. U-4763

Dear:

The North Carolina Turnpike Authority and the North Carolina Department of Transportation would like to personally invite you and/or members of your staff to attend one of the upcoming meetings on the proposed Triangle Parkway project.

The local officials meeting is scheduled for Tuesday, June 20, 2006, from 1:00 p.m. until 2:00 p.m. A Public Workshop will be held from 4:00 p.m. until 8:00 p.m. Both functions will be held at Sigma Xi, 3106 East NC 54 in the Research Triangle Park.

As currently defined, the proposed roadway is a median divided toll facility on new location. The road will extend NC 147 south from I-40 to I-540 or McCrimmon Parkway.

The local officials meeting will provide staff a chance to update you on the proposed project, answer questions, and discuss any issues with NCTA that you feel will be important to the forthcoming planning, environmental and engineering studies.

That evening, a public meeting will be held to give citizens a chance to talk with NCTA and NCDOT representatives. Staff from NCTA, NCDOT and consultants will provide information, answer questions, and accept written comments regarding this project. The format for the workshops will be an “open house” with various displays.

Your participation is important to the success of this project, so please make plans to attend. If you have any questions in advance of the scheduled meetings, please contact Ms. Anne Lenart-Redmond with HNTB at 919-424-0457.

Sincerely,

David W. Joyner
Executive Director

cc: Gail Grimes, PE, NCTA

Triangle Parkway
Local Officials Meeting
June 20, 2006
4:00 p.m. – 8:00 p.m.

The North Carolina Turnpike Authority (NCTA) held a Local Officials Meeting for the Triangle Parkway on June 20, 2006, prior to the Public Meeting, in the Sigma Xi Building in Morrisville. The NCTA Executive Director, David Joyner, began the meeting with an introduction to the NCTA and explained the purpose of today's meetings with the local officials and the public was to provide project information and solicit input regarding the NCTA and the Triangle Parkway. He added that the NCTA is new agency and is considering several projects as potential toll roads in NC. He then introduced the following people and noted that Jay Bissett would be presenting information for the Triangle Parkway:

Steve DeWitt – NCDOT, Director of Construction and NCDOT
Grady Rankin – CFO NCTA
Perry Safran – NCTA Board Member
Rob Teer – NCTA Board Member
Susan Carlsen, NCTA GEC
Anne Redmond, NCTA GEC
Jay Bissett, Mulkey Engineers & Consultants

Jay Bissett began the meeting with an introduction and overview of his presentation. He requested everyone sign in and noted the availability of extra handouts. The presentation included a project description with displays and slides detailing the project history.

Following Mr. Bissett, Ms. Susan Carlsen, NCTA GEC, provided an overview of the need for varied public and private funding for transportation. She discussed the need and functions of toll roads by discussing four major points.

1. Factors Driving Toll Market
    a. Fuel tax revenue decrease (rising fuel efficiency)
    b. Federal legislation enabling tolls is being established making this funding option easier
2. Electronic Toll Collection (ETC)
    a. Majority of tolls are becoming automated
    b. HOV/HOT Lanes can be isolated as toll with automatic tolling
    c. Issues included interoperability and enforcement (i.e. EXPASS, SUNPASS)
    d. Benefits include no stopping required, as many are at highway speed; uses electronic transponder interoperable with parking garages; reduces congestion at plaza and monitors traffic flow; allows peak hour pricing
    e. Video tolling alternative takes picture of license plate and charges against a credit or cash account
3. Regional surveys confirm shift in attitude
4. Currently most states have toll facilities with the exception of some western states with less congestion. Funding transportation with tolls is a nationwide trend.

Following the presentations, an open format of questions and answers was initiated for the attending officials. The following discussions occurred during the question (**Q**) and answer (**A**) session:

- **Q**: How will the environmental study address the toll facility traffic? For example how will it look at traffic volumes, congestion, and air quality impacts associated with the toll booth?
  A: Electronic toll collection would not require additional right of way or slow traffic during collection. The projected traffic used to design the project will be somewhere between the traffic volumes projected for a free facility and a tolled facility. This projected traffic will be based on the probable use of a paid service facility. The Traffic study provided by Wilbur Smith was developed for investment and bonding purposes and is extremely conservative in the number of users.
- **Q:** How certain is NCTA with proceeding with an EA as opposed to EIS? Are there any examples of other toll projects and an EA?
  A: Based on the initial studies, impacts to human and natural environment resources appear minimal. The agencies and scoping comments on the project also demonstrate that this project is needed and would have minimal impacts to the project area.
- **Q:** If an EIS was required, what would it do to schedule? **A:** The studies that are being prepared now would be used in the EIS. The issues of the project would be the same. The delay and change in the schedule would primarily be related to additional review time required from the agencies in addition to the advertising and distribution of the documents. The schedule would need to be revised to account for these review times.
- **Q:** What is the plan for the section of the project from I-540 to McCrimmon? **A:** The initial traffic revenue studies showed this section would be a beneficial segment for the project as a feeder road.
- **Q:** The Town of Morrisville representatives questioned how an EZ Pass would be used. Would the NCTA work with Morrisville regarding the provision of a traffic signal or round-about intersection at McCrimmon Road and an overpass at Kit Creek Road? **A:** NCTA will coordinate with Morrisville during the later stages of the planning studies. The project needs to accommodate the transportation demand and be cost effective.
- **Q:** Will the toll be a flat fee? **A:** It is likely that one mainline toll plaza will be located on Triangle Parkway – This is one of the preliminary options; however, this has not been determined yet.
- **Q:** Will there be an expiration date on the EZPass? **A:** Not typically; the EZ Pass would be based on cash or credit. With credit it is typically automatically increased as the amount gets low.
- **Q:** Will there be a senior discount or any restrictions on 18-wheelers? **A:** This would be purely a policy decision from NCTA. It is likely that trucks would be charged a higher toll fee.
- A Town of Morrisville representative noted the following interests:
  - Prefers the section from I-540 to McCrimmon Road not to be tolled,
  - Requests considerations in the studies for how people west would get to

I-540;
    - Requests a review of how the McCrimmon Connection will impact the time delays and failing capacity at the Town Hall Drive intersection with McCrimmon Road.
    - Determine the types of improvements needed to help maintain functionality of Town Hall Boulevard, McCrimmon Parkway, Davis Drive and the corresponding intersections.
- **Q:** There is a new project at Shiloh Road and this community has an interest in connectivity to the McCrimmon Connector; could NCTA review this option in the EA? **A:** With this connection to the neighborhood, there could be the potential for cut-through traffic. Many do not like this through the neighborhoods.
- **Q:** A Morrisville representative noted there is an interchange there and requested that the EA review the benefits of connectivity versus impacts of cut-through traffic. Morrisville will send the site plan to the NCTA to review; however, it is unlikely that this level of traffic will be available.
- **Q:** Are there any projections on how long the road will be tolled? **A:** The initial bonding is estimated to be approximately 30-40 years.
- **Q:** Where will consideration be given to HOV, buses, etc? In the financial study or the EA? **A:** This type of decision is a policy decision for NCTA, not part of the NEPA process. These types of decisions will be ongoing throughout the life of the toll road. The funding and decisions for NCTA need to run as a business. The financial advisor will need to evaluate these types of accommodations during the bonding process since NCTA will be planning to repay the bond to Wall Street.
- **Q:** During the payout period of bonds, will some of the collected tolls go toward maintenance and operations? **A:** Yes, these expenses would be rolled into the bonding process which would lengthen the bonding time. This use of the tolls for maintenance could benefit NCDOT. NCDOT has the second largest number of roads in the country to maintain. Additional funding for maintenance could alleviate some of the maintenance expenses incurred by NCDOT.
- **Q:** After the bond is paid, what will be the incentive to remove the tolls, or will the maintenance needs be the incentive not to remove toll? **A:** Currently, the legislation states that tolls will be removed after the project payments are complete. However, the needs for maintenance could make these decisions in 20-30 years; Florida is an example where toll roads help finance new roads.
- **Q:** Would you caution people that tolls will definitely not go away and are always subject to change? **A:** As discussed in the presentation, in 2008-2009, the US Government will be taking in less money than what the Highway Trust Fund includes for transportation needs. These trends and the statutes are not anticipated to go-away.

- **Q:** Will NCTA review greenways, bicycles and pedestrian connections? **A:** If there are existing facilities in the project area a review of the facilities and potential impacts will be included in the studies.
- **Q:** What about considerations for planned greenways, bicycles and pedestrian connections? **A:** Planned facilities would be discussed and coordinated for each project.

The meeting was adjourned. Jay Bissett thanked all in attendance and invited everyone to stay for the Public Meeting. Jay also stated that anyone with additional questions were welcome to come to the front of the room with the displays to discuss the project with NCTA representatives.

NORTH CAROLINA
Turnpike Authority

Triangle Parkway Public Meeting

June 20, 2006
TIP No. U-4763

Purpose of the Meeting

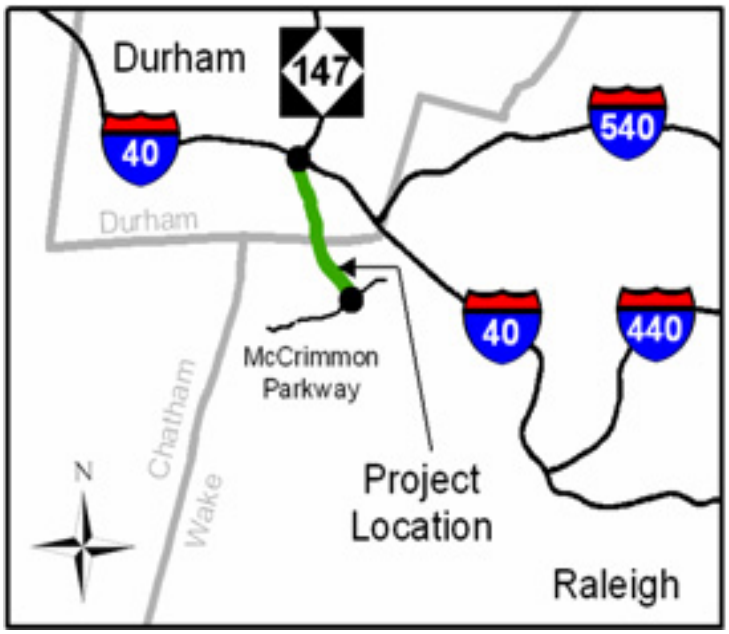
- Present information on the proposed transportation improvements.
- Discuss concerns, receive comments and answer questions on the proposed project.

Meeting Format

- The format for the meeting is informal. Representatives from the North Carolina Turnpike Authority and their consultants are available to discuss the project with you.
- Several stations are located around the room.
- Please sign-in at the registration table. Comment forms are available and may be filled out tonight or returned by mail to the address shown on the form.

Project Information

The North Carolina Turnpike Authority is preparing an environmental document of the potential impacts from the construction of the proposed Triangle Parkway. The roadway is planned as a median divided toll facility on new location from I-40/NC147 to I-540 (currently under construction), with a median divided expressway from I-540 to McCrimmon Parkway.



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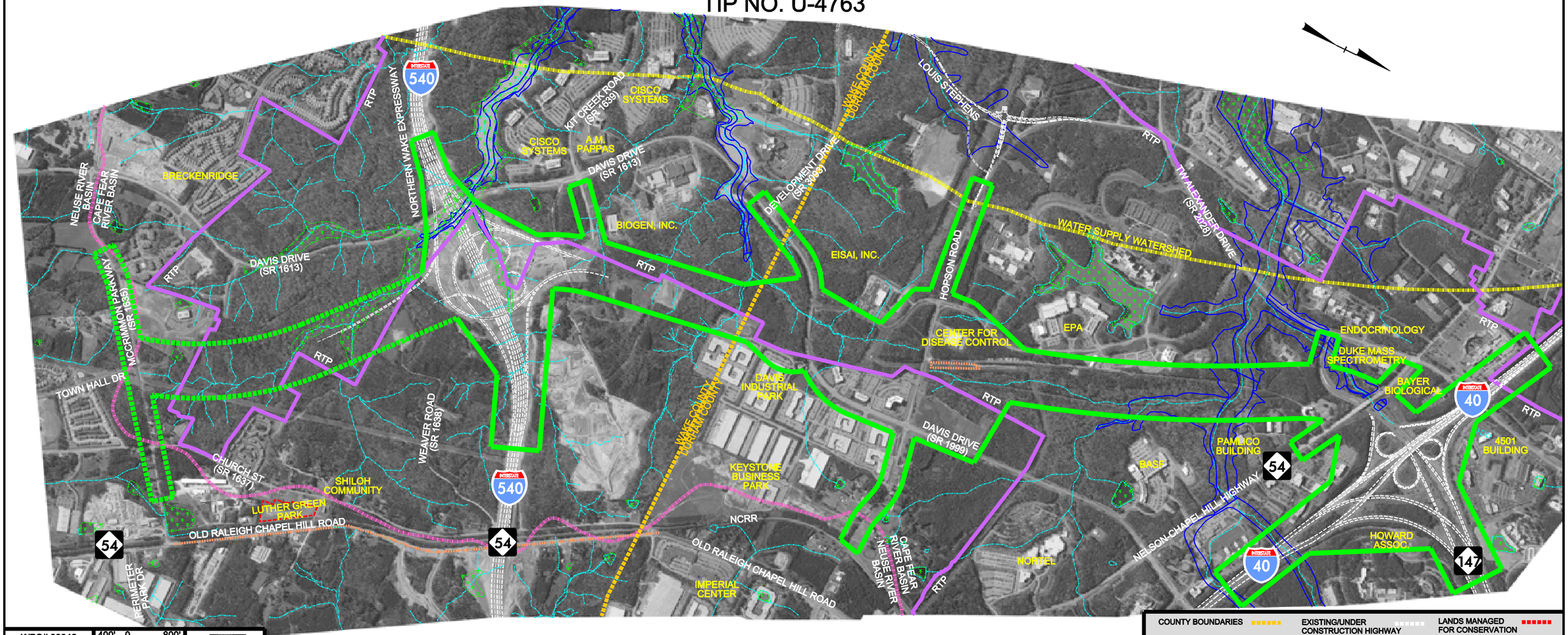
TRIANGLE PARKWAY

TIP NO. U-4763



WBS# 39942
F.A. No. NHS-54(7)

400' 0 800'
SCALE (FEET)

NORTH CAROLINA Turnpike Authority

COUNTY BOUNDARIES
PRELIMINARY STUDY AREA
RTP
FEMA FLOODZONES
EXISTING/UNDER CONSTRUCTION HIGHWAY
NWI WETLANDS
RIVER BASIN
STREAMS
LANDS MANAGED FOR CONSERVATION
WATER SUPPLY WATERSHED
NATURAL HERITAGE PROGRAM SITES

Environmental Study Process

The environmental document for the proposed project will be prepared in compliance with the National Environmental Policy Act (NEPA). Under NEPA, the adverse and beneficial impacts of a full range of preliminary alternatives are evaluated in order to identify the alternative that best fulfills the project purpose and need, and minimizes the impacts to the human and natural environments. This planning process can be divided into several steps.

- Identify Purpose of and Need for Study
- Collect Data on Project Study Area ◄ We are here
- Analyze Preliminary Alternatives
- Select Detailed Study Alternatives
- Evaluate Impacts of Detailed Study Alternatives
- Publish Environmental Assessment (EA)
- Hold Corridor/Design Public Hearing
- Publish Finding of No Significant Impact (FONSI)

Project Benefits Could Include

- Reduce traffic volumes on I-40
- Improve traffic flow along NC 55, NC 54 and Davis Drive
- Improve commuter mobility, access and connectivity to the Research Triangle Park employment centers
- Improve travel times along I-40, NC 147 and I-540
- Improve regional mobility and access between Durham and Wake Counties

Project Schedule

Environmental Assessment	October 2006
Corridor/Design Public Hearing	December 2006
Finding of No Significant Impact	March 2007
Begin Right-of-Way Acquisition	Spring 2007
Begin Construction	Fall 2007

For Additional Information, Please Contact

Gail Grimes, PE
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh NC 2769-1578

Phone: 919-571-3000
E-mail: gail.grimes@ncturnpike.org

or

Jay Bissett, PE
Mulkey Engineers & Consultants
Post Office Box 33127
Raleigh, North Carolina 27636-3127

Phone: 919-851-1912
E-mail: jbissett@mulkeyinc.com

www.ncturnpike.org

Thank you for coming. Your participation is very important to us.

NORTH CAROLINA Turnpike Authority

TRIANGLE PARKWAY

Transportation Improvement Program, Project No. U-4763

Comment Form
NCTA Public Meeting
June 20, 2006

The North Carolina Turnpike Authority (NCTA) and North Carolina Department of Transportation (NCDOT) invite your comments on the proposed transportation improvements. Please provide your comments in the box provided below and include your contact information. Your written comments may be left in one of the comment boxes at the meeting or mailed in by **July 18, 2006**. Additional copies of this comment form are available on the NCTA website at www.ncturnpike.org.

Mail comments to:

Mr. Jay Bissett, PE
Mulkey Engineers & Consultants
Post Office Box 33127
Raleigh NC 27636-3127

Name:

Address:

Would you like to be added to the mailing list?

How did you hear about this meeting? (Postcard, Newspaper, TV/Radio, etc.)

Are you a member of a civic or business group such as a homeowners association, non-profit group, etc? If so, which one?

What are the major issues within the study area that you think are important to include in the upcoming studies? Please explain. (For example: natural resources, neighborhoods and communities, toll issues, land use, etc.)

Other Comments?

MULKEY
ENGINEERS & CONSULTANTS

MEMORANDUM

To: Project File

From: Jay Bissett

Date: August 28, 2006

Subject: Public Meeting Summary; NCTA Triangle Parkway, Project Number U-4763

The North Carolina Turnpike Authority (NCTA) held a Public Meeting for the Triangle Parkway on Tuesday, June 20, 2006 in the Sigma Xi Building in Morrisville. The meeting was held from 4:00 p.m. to 8:00 p.m. Project Team Members, which consisted of representatives from NCTA, HNTB, NCDOT, and Mulkey Engineers & Consultants, were present at the meeting to encourage discussions with the public.

In attendance were approximately 57 people. The workshop included a five-station set up to allow a circular flow for attendees to discuss different aspects of the project studies with Project Team Members. Directional signs were provided in the parking lot and in the building lobby to guide and welcome the public into the Sigma Xi building. In addition to the five stations, a Kids Center with coloring books and crayons was also provided in the center of the room for children attending the meeting.

Project representatives were available at each of the five stations to answer questions, provide information, and address any concerns held by the public. The following outlines the information that was available at each station:

Station One was located so citizens entering the building could be greeted by Project Team Members and given an introduction to the station format of the meeting. At this station, citizens signed in and received workshop handouts with free NC State Road Maps.

Station Two provided citizens with insight into the project development with exhibits illustrating the purpose and need of the project, the project schedule, project development process and a Triangle Parkway PowerPoint presentation. The PowerPoint presentation was a continuous loop presentation shown throughout the meeting with one minute breaks to allow all citizens the opportunity to sit and view the presentation.

Station Three displayed the proposed project and a roadway typical section. Several Team Members were present at this station to discuss potential constraints within the project area and explain the visual aids.

Station Four introduced the NCTA goals including their mission, and other NCTA projects under consideration. This station also included a continuous loop NCTA PowerPoint Presentation explaining several toll options available for NC. Visual aids showing the location of the other NCTA

projects were also available for review and discussions with the Team Members.

Station Five encouraged citizens to comment on the project. Two areas at this station were provided: one area included open tables with comment forms and pens for those who preferred to submit written comments, and the second area included two Team Members at tables with project location maps. The Team Members asked questions to obtain information from the citizens regarding any areas of concern and travel patterns. These Team Members were also available for the citizens to answer questions, receive comments, and discuss the project information seen at this meeting.

Several displays were located at the exit door of the Public Meeting Room to provide contact information and an outline for the next steps for the project. Contact information included phone numbers and the NCTA website. The next public event for the project includes holding the Public Hearing following the distribution of the Environmental Assessment. The attendance sheets and a summary of the written and verbal comments received at the Public Meeting are attached.

Summary Public Meeting Comments
June 20, 2006 Public Meeting
Triangle Parkway
Wake and Durham Counties

Name	Type	Date	Comments
Barbara Aulicino	Comment Form	6/20/06	Concerns include impact on natural resources (Jordan Lake) and communities regarding traffic, property values, quality of life and upheaval during construction. Expresses appreciation for workshop and opportunity to comment.
Tommy H.	Comment Form	6/20/06	Major area of concern is land use. Feels project provides a much needed facility.
John Doe	Comment Form	6/20/06	Feels traffic in area is too heavy.
Michelle Ernzen	Comment Form	6/20/06	Major concern within study area is neighborhoods. Commute to and from work less time and stress. Willing to pay toll for convenience.
Austin Leake	Comment Form	6/20/06	Concerned with possible lack of profit to pay for all included expenses. Needs a serious marketing study.
Duane Carter	Comment Form	6/20/06	Very much in favor of toll roads.
Clarence Herndon	Comment Form	6/20/06	Will have a positive impact on taking cars off of Davis Drive.
Billy & Margaret Maynard	Comment Form	6/20/06	Major concerns within study area include land use and traffic caused by cars waiting to pay tolls. Notes housing development needs to lessen and bicycles on highways are more dangerous than cars.
Dan Dzamba	Comment Form	6/20/06	Major concerns include neighborhood streets in Morrisville (i.e. Morrisville Carpenter Road and Crabtree Crossing) being widened prior to 147 toll being built. Expresses support towards toll, comments and additional public sessions.

Name	Type	Date	Comments
Ed White	Comment Form	6/20/06	Major concern is to include connection for Triangle Parkway to McCrimmon Parkway a part of initial package for toll road. Notes this as requirement in solving access problems for Morrisville and Cary residents and as key to economic development in surrounding Lenovo Campus and Wake County side of RTP.
Neal Wolgin	Comment Form	6/20/06	Major concern is need to include local improvements in study such as Davis Drive Widening and re-alignment and extension of Hopson.
Nicole Tullve	Comment Form	6/20/06	Major concerns include resources and environmental conservation impact on Morrisville.
James Ash	Comment Form	6/20/06	Major concern is effect on wetland area near McCrimmon. Supports project and looks forward to seeing it completed.
R. Stanton	Comment Form	6/20/06	Major concern is Church Street neighborhoods. Welcomes anything that will relieve congestion on I-40 East, Exits 278-282.
Charles Ashley Leonard	Comment Form	6/20/06	Major concerns include toll issues. Worries that state will turn to toll roads instead of doing what needs to be done to get the gas tax raised. Lives near proposed road and would elect not to use it. Not certain of position on project, but feels that is different from choice to use the road.
David Grennan	Email	6/26/06	Main concern is extension of 147 to McCrimmon Parkway. Requests information and detailed map showing placement of extension in detail and how it would connect to McCrimmon Parkway.

Appendix F
Additional I-40 Design Considerations

Additional I-40 Design Considerations

Requested Considerations from NCDOT

Based on the letter received from the NCDOT on May 18, 2007 requesting additional modifications to the Preferred Alternative for the proposed Triangle Parkway (See Appendix D), the NCTA analyzed the impacts to the human and natural environment if a flyover ramp was constructed between northbound Triangle Parkway and westbound I-40 and if I-40 was widened by one lane in each direction between NC 147 and NC 55.

As stated in Chapter 2.3.4, the NCTA determined the I-40 flyover and widening of eastbound I-40 or westbound I-40 would not provide much level of service benefit given the existing network constraints along I-40. This determination was made from the results of the microsimulation analysis performed for the project that included network constraints on the freeways that supply traffic to the Triangle Parkway. Based on the analysis of the alternative interchange design, it is not being incorporated in the Preferred Alternative. If at such time in the future, the proposed Project Specific Agreement criteria are met, the NCTA will complete the appropriate NEPA document to further evaluate the interchange. The modifications considered, and their associated impacts, are discussed in this section.

I-40 Flyover and Widening of Westbound I-40

Functional designs were developed to evaluate an I-40 flyover and widening of westbound I-40. The functional design analyzed along I-40 included the construction of a 4,500-foot-long, two-lane flyover ramp from northbound Triangle Parkway to westbound I-40. The length of bridge required for the flyover is 770 feet. The remainder of the flyover would be built on fill material. The current loop ramp from northbound NC 147 to westbound I-40 would be eliminated. The improvements would add an additional outside lane along westbound I-40 to NC 55, a distance of 1.2 miles. The NC 54 bridge over Triangle Parkway is expected to be replaced with the construction of the Triangle Parkway because the horizontal clearance under the bridge is not adequate to meet the lane requirements for Triangle Parkway. However, the flyover would require the bridge be lengthened by 225 feet. In addition, this modification would require an additional 11,500 feet of retaining walls. The bridge over Alston Avenue would require widening. The bridge on T.W. Alexander Drive over I-40 has sufficient horizontal clearance to accommodate the widening of westbound I-40. The modifications are shown in Figure 2-6.

Eastbound I-40 Widening

The functional designs analyzed along eastbound I-40 included the construction of an additional outside lane along eastbound I-40 from NC 55 to southbound Triangle Parkway, a distance of 1.2 miles. The bridges over Alston Avenue and over the CSX railroad would require widening. The bridge on T.W. Alexander Drive over I-40 has sufficient horizontal clearance to accommodate the widening of eastbound I-40. The modifications are shown in Figure 2-6.

Impacts to the Human and Natural Environment

The potential impacts to the human and natural environment for the requested modifications are listed below:

	I-40 Flyover and WB I-40 Widening	EB I-40 Widening
Right-of-Way	0 acres	3.97 acres
Number of Relocations	0 Residences 0 Businesses	0 Residences 0 Businesses
Protected Species Impacted	No	No
Jurisdictional Wetlands Impacted	No	No
Jurisdictional Streams Impacted	No	No
Noise Receptors Impacted	2	10
Noise Walls	No	No
Construction Costs[1]	$28.0 M	$3.0 M

Natural Resources

A review of the jurisdictional wetlands and streams along I-40 indicates the proposed modifications will not impact any jurisdictional wetlands and streams. Based on Natural Heritage Program data, no protected species are expected to be impacted by the construction of the widening or flyover ramp.

Right-of-way and Relocations

Based on the horizontal designs completed, widening of westbound I-40 and the construction of the flyover ramp would require the acquisition of 3.97 acres of additional right-of-way. The widening of eastbound I-40 would not require the acquisition of any additional right-of-way. No relocations to businesses or residences are anticipated with either the eastbound or westbound widening of I-40.

Long Range Transportation Plan

DCHC MPO and CAMPO's Long Range Transportation Plans (LRTP) do not include the I-40 widening. The LRTPs would need to be modified for the widening to be in conformance with these plans. The DCHC MPO's LRTP contains a project to widen NC 147 which will require the reconstruction of the current I-40 interchange and would result in revisions to the flyover ramp.

Air Quality Conformity

The air quality conformity analysis for CAMPO and DCHC MPO approved on June 29, 2007 does not include the additional widening of I-40.

[1] Construction cost estimates developed in May 2007.

Noise Impacts

A preliminary noise analysis was performed for the requested modifications along I-40. If I-40 were widened from NC 147 to NC 55, 12 receptors would be impacted. One potential barrier location was identified along I-40 near the NC 55/I-40 interchange.

Noise abatement was considered for eight of the 12 impacted receptors, including receptor 2 (Lowe's Grove Middle School), receptor 3 (Lowe's Grove Baptist Church), receptors 4 through 8, (residential uses) and receptor 18 (cemetery). The potential barrier location is located along I-40 eastbound near the NC 55/I-40 interchange. A 1429 foot long noise wall ranging from 16 feet to 25 feet in height would provide a minimum five dBA reduction for five of the eight receptors (receptors 4-8). The barrier would benefit these five receptors at an estimated cost of $518,712. Dividing this cost ($518,712) by these five receptors equates to approximately $103,742 per benefited receptor. Reasonable cost per benefited receptor is such that the cost of noise mitigation divided by the number of benefited receptors must be equal to or less than $35,000 plus $500 multiplied by the increase in predicted exterior noise levels (average of 3.4 dBA increase). This equates to $36,700 which is less than the $103,742 cost per benefited receptor. Based on the NCDOT's Traffic Noise Abatement Policy, the noise wall is not reasonable.

Direct and Indirect Impact Conclusions

Based on the above discussion, it is concluded that these improvements would result in minimal direct impacts to the human and natural environments. Regarding indirect impacts, the potential for complementary development in the area would not exist since:

- I-40 is an existing full control of access facility,
- No new access would be provided to adjacent properties, and
- Land near the interchanges is developed.

The project would include widening one short-section of an existing full control of access facility which in the design year is already projected to operate over capacity with or without the project.

Conclusion

Based on the analysis performed the widening of eastbound and westbound I-40 from NC 147 to NC 55 and the construction of a flyover ramp from northbound Triangle Parkway to westbound I-40 would not result in substantial impacts to either the human or natural environments.

However, the NCTA determined the I-40 flyover and widening of eastbound I-40 or westbound I-40 did not provide much level of service improvement due to existing network constraints and the inherent future need to widen I-40. If the modifications requested were constructed at I-40, the improvements would be obsolete since two locations along I-40 would have operational failures within four and seven years of construction, and there are no plans in place to improve I-40. Therefore, if the flyover was constructed, it would require re-construction if I-40 was widened in the future.

The future construction of the requested modifications will be addressed in accordance with the Project Specific Agreement between the NCDOT and the NCTA. Additional information regarding the NCTA's decision to not construct these modifications at this time can be found in Chapter 2.3.4.

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Turnpike Authority