ORANGE COUNTY
NORTH CAROLINA

Efland-Buckhorn-Mebane Access Management Plan

August 28, 2018

Outline

- **Background**
  - o 2011 E-B-M AMP
  - o 2017 Transportation Study
- **Updating the Plan**
  - o Process
  - o Analysis
  - o Public Participation
- **Next Step**
  - o Public Process & Actions
  - o Implementation

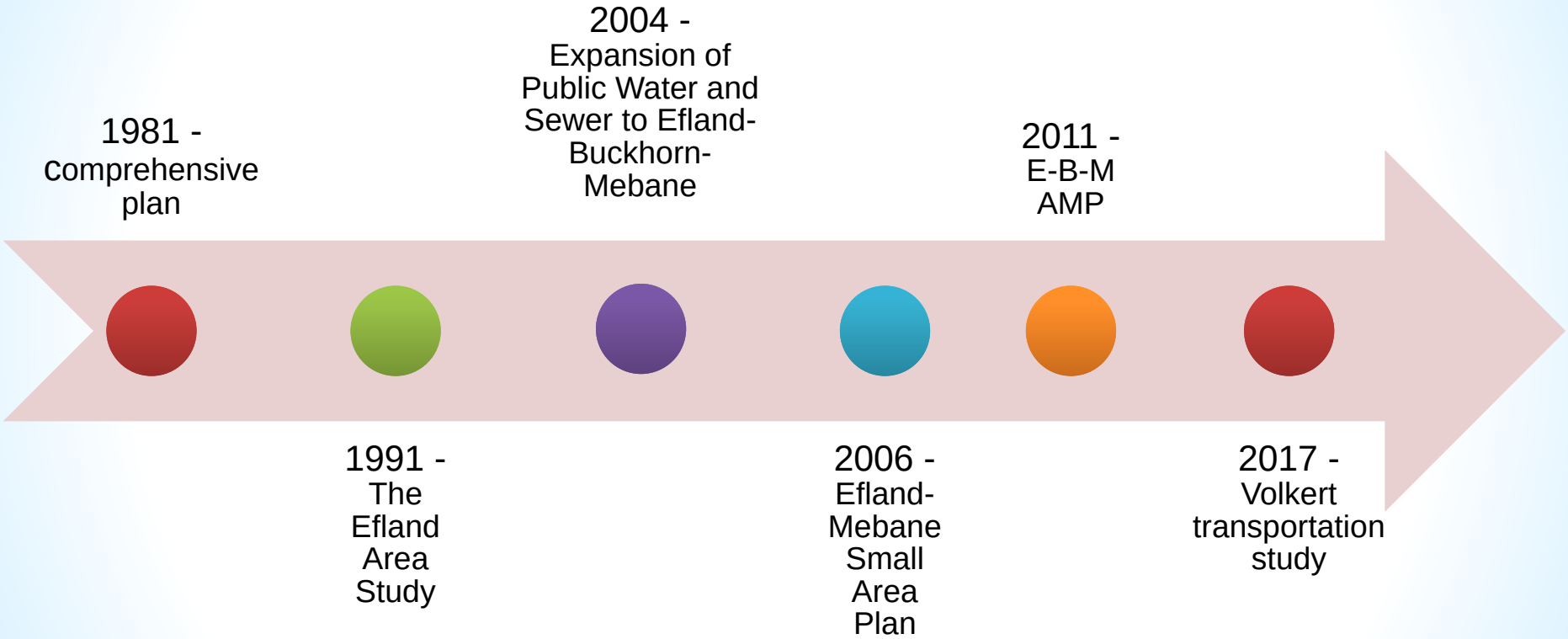
ORANGE COUNTY
NORTH CAROLINA

Background – What is AMP

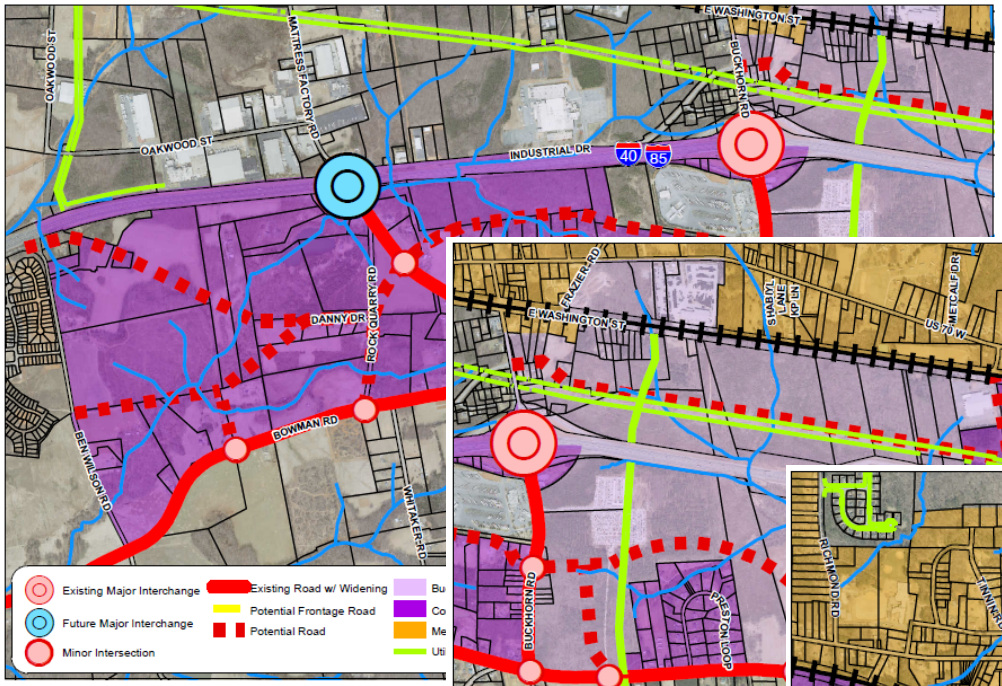
Access Management Plan (AMP) is a proposed master plan of possible new roads & connections to existing roads while providing access to development, preserve traffic flow, safety & capacity.

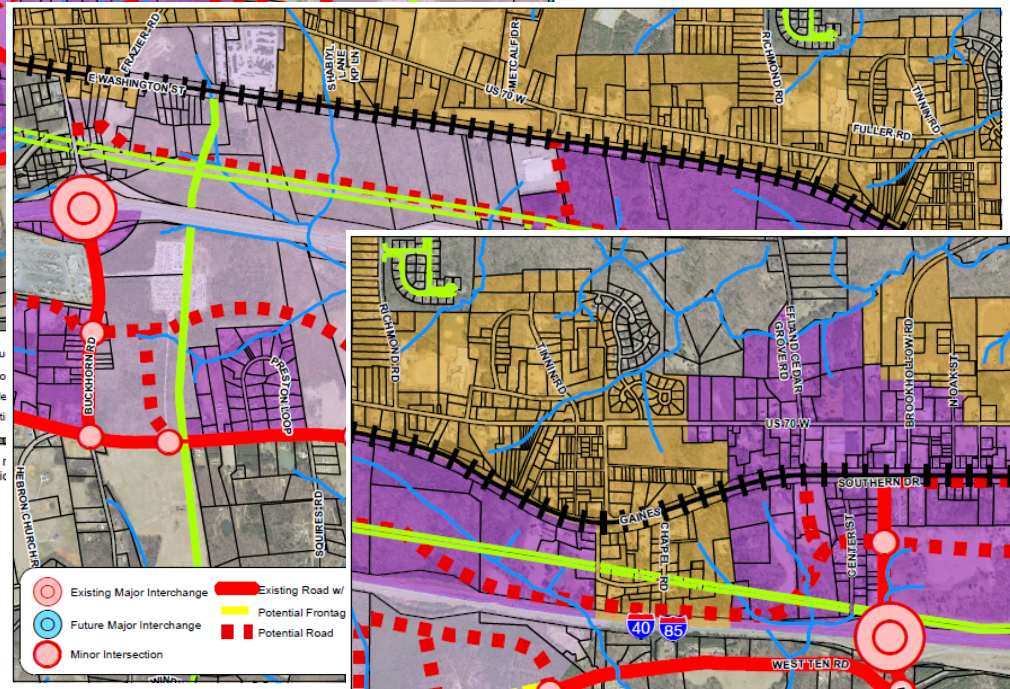
- Improve overall transportation system
- Minimize congestion & crashes
- Efficient traffic flow, safety & access to properties

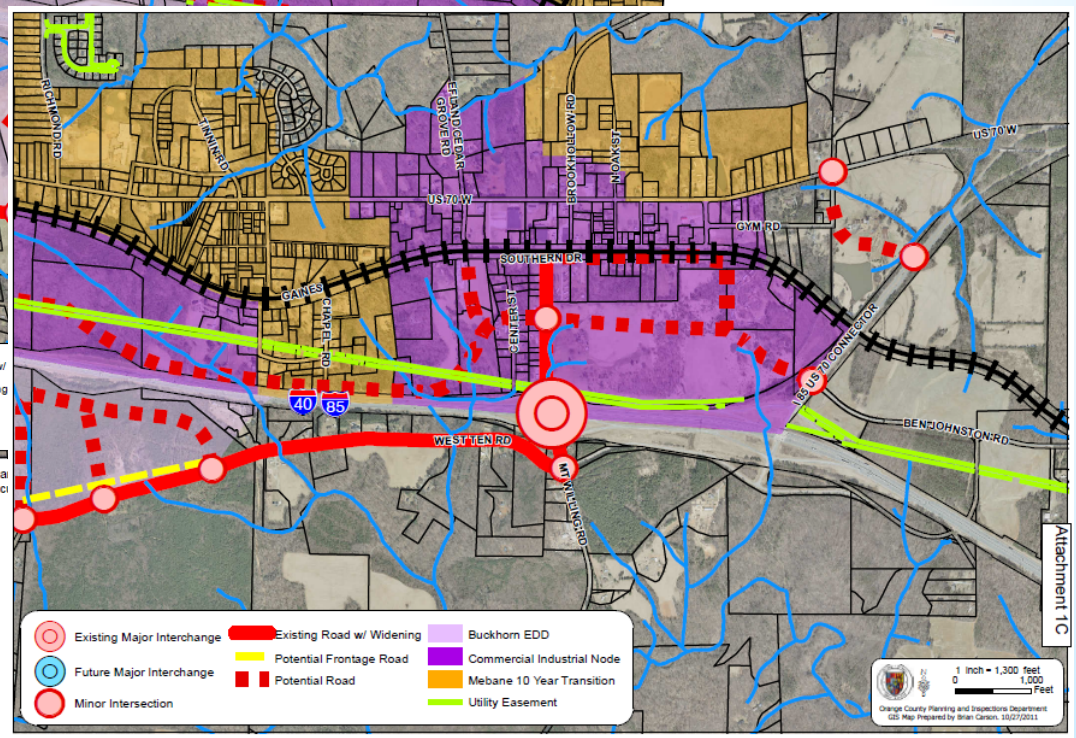
Background


1981 - Comprehensive plan
1991 - The Efland Area Study
2004 - Expansion of Public Water and Sewer to Efland-Buckhorn-Mebane
2006 - Efland-Mebane Small Area Plan
2011 - E-B-M AMP
2017 - Volkert transportation study

Background – 2011 E-B-M AMP







- Highlighted key nodes & corridors

- Multiple access management strategies
- 2 possible street cross sections

Background – 2011 E-B-M AMP

ACCESS MANAGEMENT PROGRAM
(To Be Applied Within Corridors And Development Zones)

ACCESS MANAGEMENT CONCEPTS

1. **Driveway-Related Crashes**
   Much of access management involves managing traffic movements into and out of commercial driveways. The reason for this is that driveway traffic generates a large number of crashes on major roads and streets-arterials and collectors.

2. **Driveway Spacing**
   Maintaining an adequate spacing between commercial driveways is one of the most critical aspects of access management.

3. **Driveway Density And Driveway Consolidation**
   Driveway density (the number of driveways per block or per mile) and driveway consolidation are very important considerations in access management. These roadway characteristics are basic issues in any access management plan or program.

4. **Intersection Spacing And Traffic Signal Spacing**
   Although most discussions about access management focus on the management of private driveways, proper spacing of roadway intersections is an equally important access management issue.

   Why is intersection spacing important?
   The importance of intersection spacing is similar to that of driveway spacing. As the number of intersections per mile increase, the opportunity for crashes increases. The existence of too many intersections per mile also increases delay and congestion. On the other hand, not providing an adequately dense street network forces motorists and pedestrians to travel farther to their destinations.

5. **Functional Areas Of Intersections**
   It is important to protect the functional area of an intersection from driveway access. Driveways located within this area may result in higher crash rates and increased congestion.

   What is the functional area of an intersection?
   The functional area of an intersection is that area beyond the physical intersection of two roadways that comprises decision and maneuvering distance, plus any required vehicle storage length. The functional area includes the length of road upstream from an oncoming intersection needed by motorists to perceive the intersection and begin maneuvers to negotiate it. The upstream area consists of distance for travel during a perception-reaction time, travel for maneuvering and deceleration, and queue storage. The functional area also includes the length of road downstream from the intersection needed to reduce conflicts between through traffic and vehicles entering and exiting a property.

- **September 7, 2011**
  Planning Board

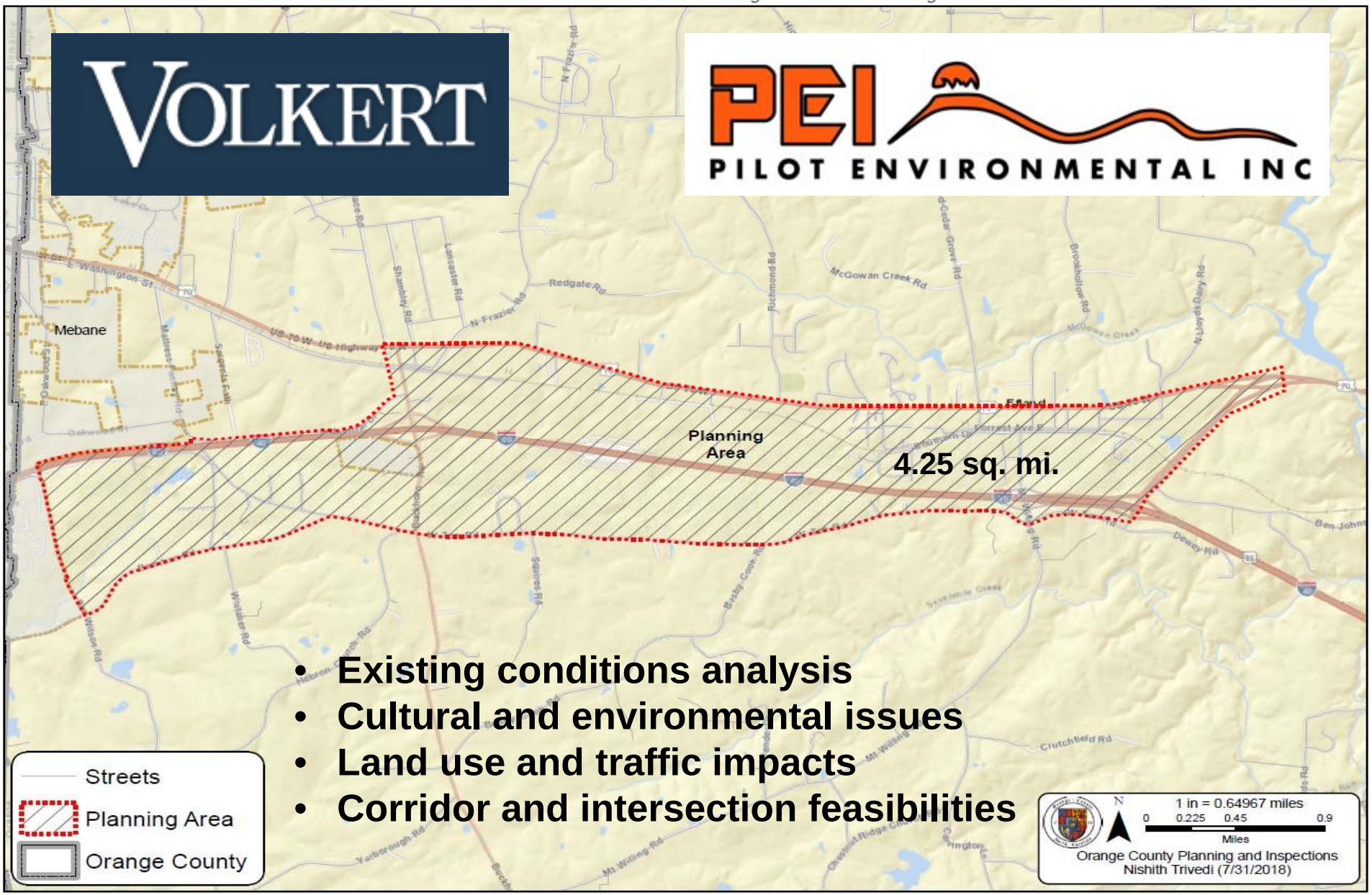
- **September 21, 2011**
  Orange Unified Transportation Board

- **November 14, 2011**
  Public Information Meeting

- **November 15, 2011**
  BOCC Adoption

Background – 2017 Transportation Study

Efland-Buckhorn-Mebane Access Management Plan - Planning Area



- **Existing conditions analysis**
- **Cultural and environmental issues**
- **Land use and traffic impacts**
- **Corridor and intersection feasibilities**

Background – 2017 Transportation Study

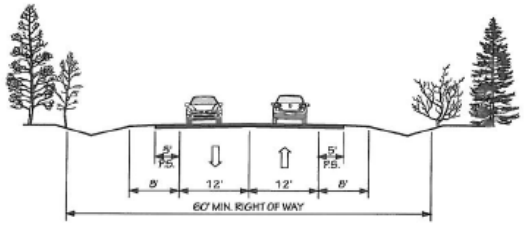
30 rows of data for 4.25 square miles of potential development

Pod Information for Trip Generation Analysis - Mebane/Buckhorn Economic Development District Transportation Plan

Pod ID		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Gross Acreage		343.41	75.35	257.53	362.35	138.95	109.73	22.01	243.19	55.96	192.12	62.2	35.32	49.26	63.26	49.91	23.59	144.61	72.77
Current Zoning		O/RM, AR	AR	O/RM, R1	EDB-2, R1, PDHR1	EDB-2	EDB-2, R1, AR	EDB-2, R1	EDB-2, R1	R1, EC5	R1	R1, EC5	R1	R1, AR	R1, EI, NC2, I2	R1, AR, I1	LC1, NC2, R1	O/RM, AR, R1	AR
Future Land Use Plan Designation		Comm-Ind Trans	Comm-Ind Trans	Comm-Ind Trans	Comm-Ind Trans; Econ-Dev Trans	Econ-Dev Trans	Econ-Dev Trans, Agri-Res	10-Year Trans, Econ-Dev Trans	Econ-Dev Trans, Comm-Ind Trans	10-Year Trans	Comm-Ind Trans	10-Year Trans	10-Year Trans	10-Year Trans	Comm-Ind Trans	Comm-Ind Trans	Comm-Ind Trans	Comm-Ind Trans	Agri-Res
Undeveloped Land		129.48	17.41	90.5	131.43	0	75.72	11.65	188.48	8.37	134.94	19.88	15.79	18.49	9.1	38.79	7.09	20.41	0
Current Dev. Non Residential Acreage		26.76	2.35	30.7	128.5	138.95	0	1.86	49.57	0	25.87	1.34	3.14	0	32.62	11.03	4.1	0	0
Current Dev. Residential Acreage		187.16	53.59	136.29	102.42	0	33.99	8.47	5.12	47.57	31.31	41.03	13.39	30.78	21.53	0.09	12.41	124.19	72.77
TO BE PRESERVED: Existing Non-Residential Development, Established Residential Areas/Subdivisions, Other Developed Areas		54.71	4.35	41.64	32.84	138.95	15.44	4.71	49.80	1.39	25.87	39.33	19.28	0.31	32.62	11.03	18.80	0.00	0.00
Gross Redevelopable Area (Acres)		288.70	71.00	215.89	329.51	0.00	94.29	17.30	193.39	54.57	166.26	22.87	16.04	48.95	30.64	38.88	4.79	144.61	72.77
Environmental Constraints of Developable Parcels	Wetlands	X	X	X	X	-	X	X	X	X	X	X	-	X	X	X	X	X	X
	Severe Slopes	X	-	X	X	-	X	X	X	-	X	-	-	X	-	-	-	X	X
	Conservation Lands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Floodplains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Streams and Required Buffers	X	X	X	X	-	X	-	X	X	X	X	X	X	-	X	X	X	X
	Historic Sites (On Register of Historic Places)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Archaeological	X	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cemetery	X	X	-	-	-		X	X	-	-	X	-	X	X	-	-	-	-
	Utility Easements	X	X	X	X	-	X	X	X	X	X	X	-	X	-	X	X	X	X
	Total	47.56	6.84	40.08	49.32	0.00	6.23	1.52	41.83	5.80	32.75	3.01	1.62	7.35	0.11	10.63	1.40	12.30	19.42
Gross Redevelopable Area minus Environmental Constraints (Acres)		241.15	64.17	175.81	280.19	138.95	88.06	15.77	151.56	48.77	133.51	19.85	14.41	41.61	30.54	28.25	3.39	132.31	53.35
ITE Trip Generation Codes		110, 140, 150	110	110, 140, 932	110, 150, 934, 945		210	934, 946	110, 140	110, 933, 942, 943	110, 140, 150	110	110	110	110	110	110	770	150
% Watershed/Impervious Surface Restriction		0%	0%	-5%	-30%	N/A	-69%	-15%	-30%	-30%	-30%	-30%	-30%	-30%	-30%	-30%	-30%	-30%	-30%
% Setbacks, Parking, Etc. (adjusted for double-counting)		-39%	-45%	-31%	-3%	N/A	0%	-21%	-3%	-9%	-5%	-12%	-15%	-10%	-25%	0%	0%	11%	0%
Estimated Acreage of Development		147.1	35.3	112.5	187.7	0.0	27.3	10.1	101.5	29.8	86.8	11.5	7.9	25.0	13.7	19.8	2.4	107.2	37.3
Other Attributes	Water/Sewer?	Sewer	Water	Water / Sewer	Water / Sewer	Water / Sewer	Water / Sewer	Water / Sewer	Water	Water / Sewer	None	Water / Sewer	Water / Sewer	Water	Water / Sewer	None	Water / Sewer	Water / Sewer	Water / Sewer
	Proximity of Interstate Interchange?	-	-	X	X	-	X	X	X	-	-	-	-	-	-	-	X	X	X
	Interstate Exposure?	X	-	X	X	X	X	X	X	-	X	-	-	X	-	X	X	X	-
	Proximity to Rail?	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X
	Future Transit?	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	-	-	-
Market Reduction Factor		41%	46%	28%	28%	N/A	28%	26%	31%	39%	44%	38%	38%	39%	38%	44%	26%	26%	35%
Buildable Area (Acres)		86.8	19.1	81.0	135.2	0	19.7	7.5	70.1	18.1	48.6	7.1	4.9	15.2	8.5	11.1	1.8	79.3	24.3

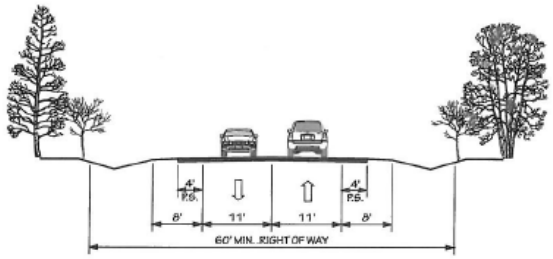
Background – 2017 Transportation Study

2A



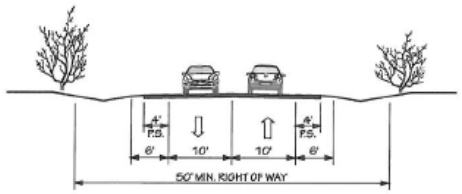
2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 55 MPH

2B



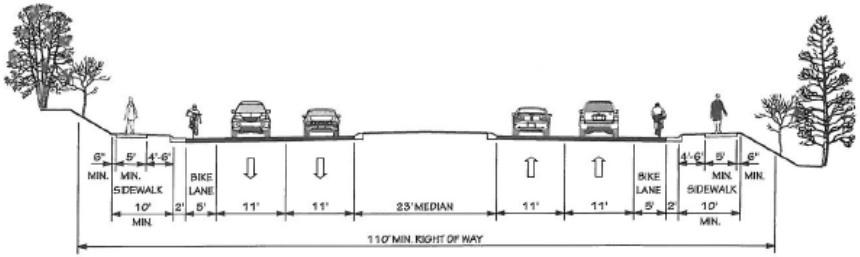
2 LANES UNDIVIDED
POSTED SPEED 45 MPH OR LESS

2C



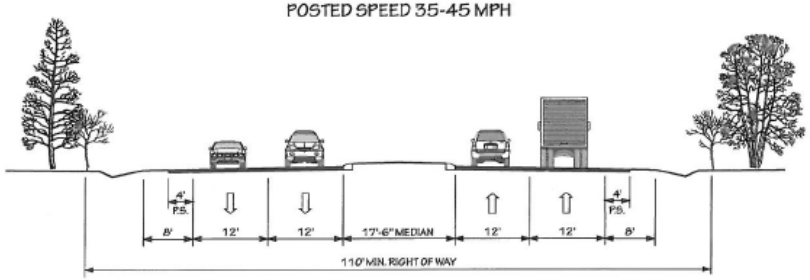
2 LANE UNDIVIDED WITH PAVED SHOULDERS
POSTED SPEED 25 - 35 MPH

4D



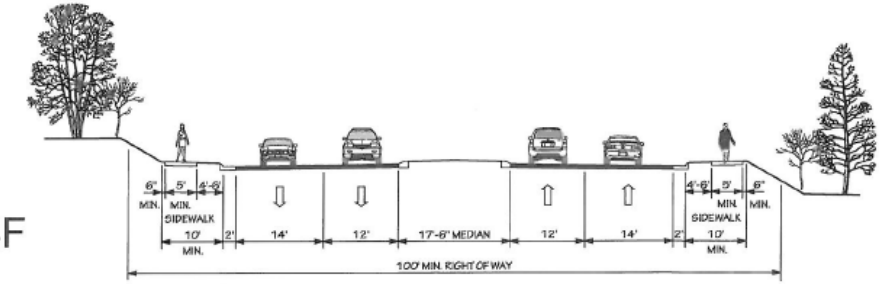
4 LANE DIVIDED (23' RAISED MEDIAN) WITH CURB & GUTTER,
WIDE OUTSIDE LANES, BIKE LANES, AND SIDEWALKS
POSTED SPEED 35-45 MPH

4E



4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH
PAVED SHOULDERS AND SIDEWALKS
POSTED SPEED 35-55 MPH

4F



4 LANE DIVIDED (17'-6" RAISED MEDIAN) WITH CURB & GUTTER,
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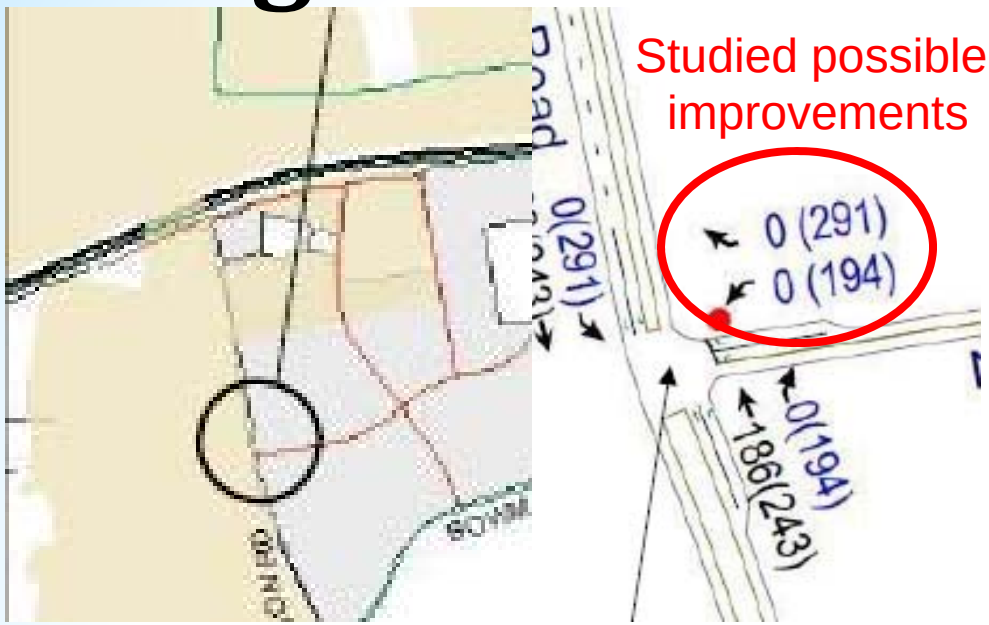
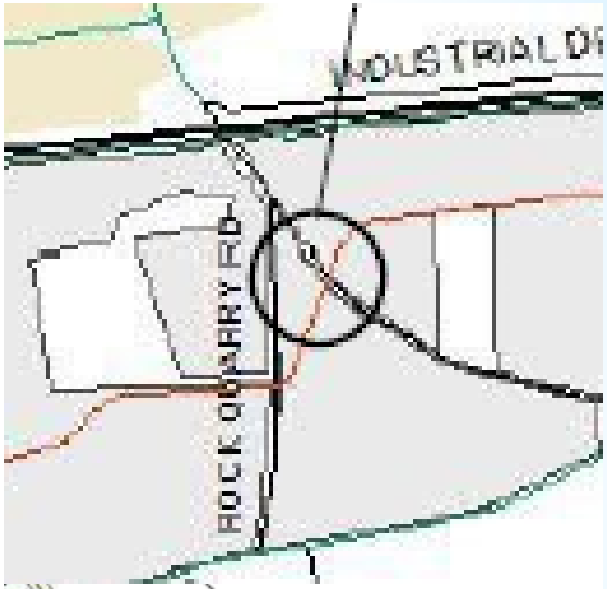
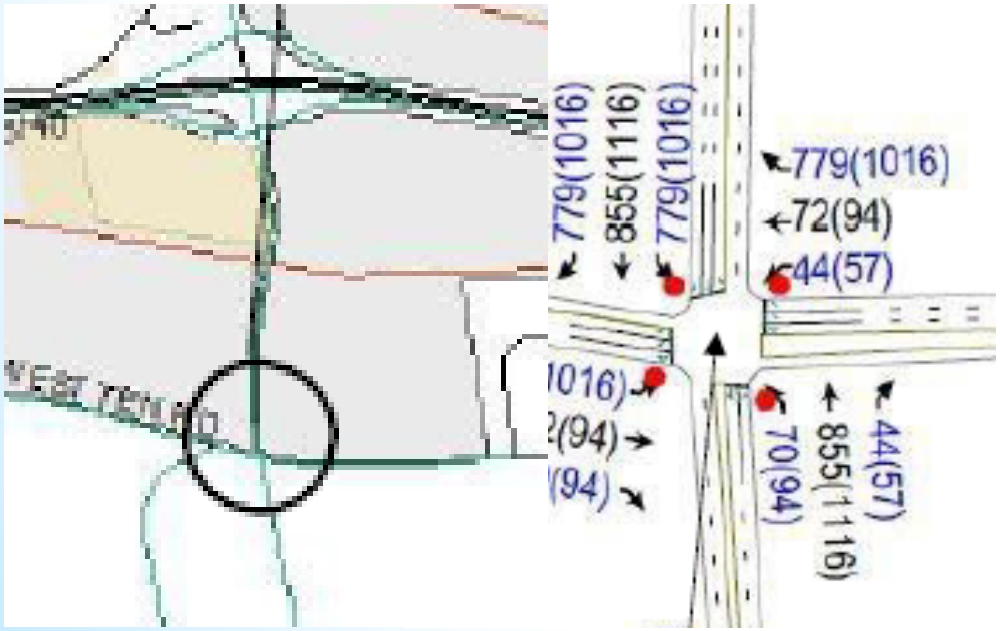
POSTED SPEED 35-45 MPH

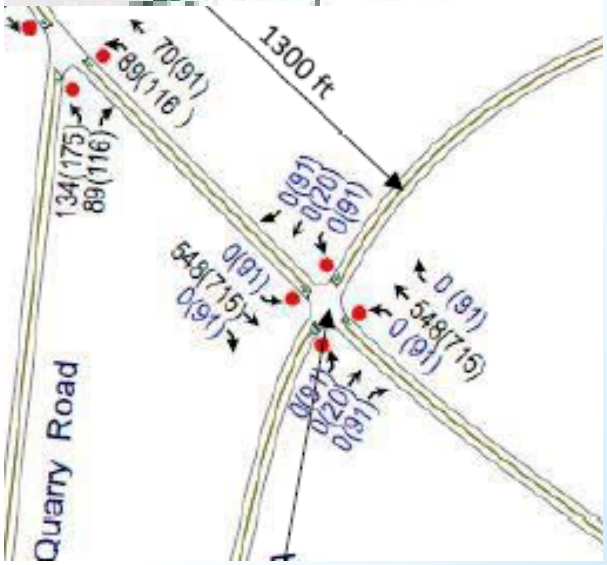
24 different NCDOT street cross sections evaluated

Background – 2017 Transportation Study







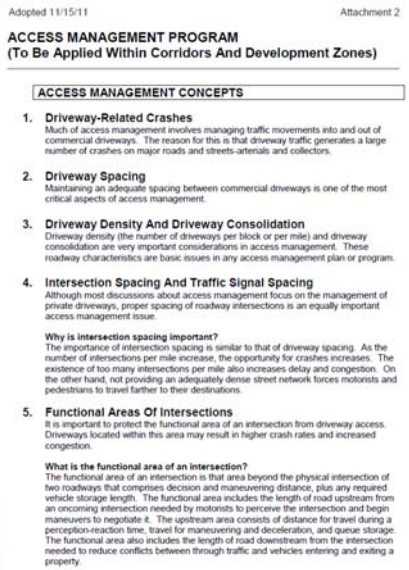


Updating the Plan

Updating the Plan – Process

Updating the Plan – Process

Public



Adopted 11/15/11 Attachment 2

ACCESS MANAGEMENT PROGRAM
(To Be Applied Within Corridors And Development Zones)

ACCESS MANAGEMENT CONCEPTS

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2011 E-B-M AMP

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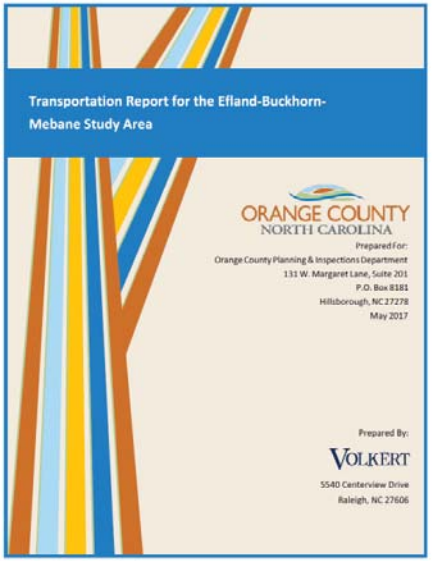


Transportation Report for the Efland-Buckhorn-Mebane Study Area

ORANGE COUNTY
NORTH CAROLINA

Prepared For:
Orange County Planning & Inspections Department
131 W. Margaret Lane, Suite 201
P.O. Box 8181
Hillsborough, NC 27278
May 2017

Prepared By:
VOLKERT
5540 Centerview Drive
Raleigh, NC 27606

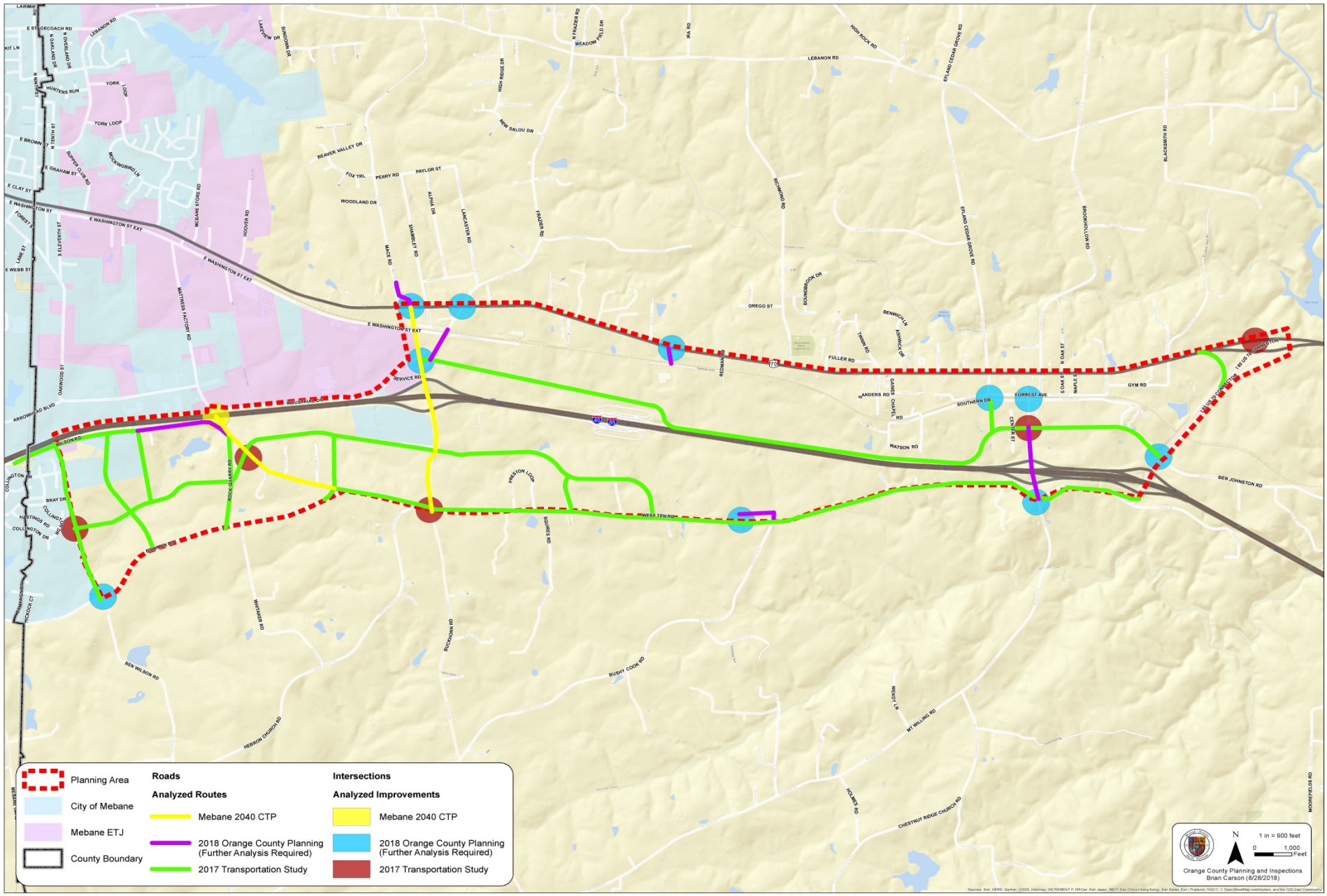
2017 Transportation Study

=

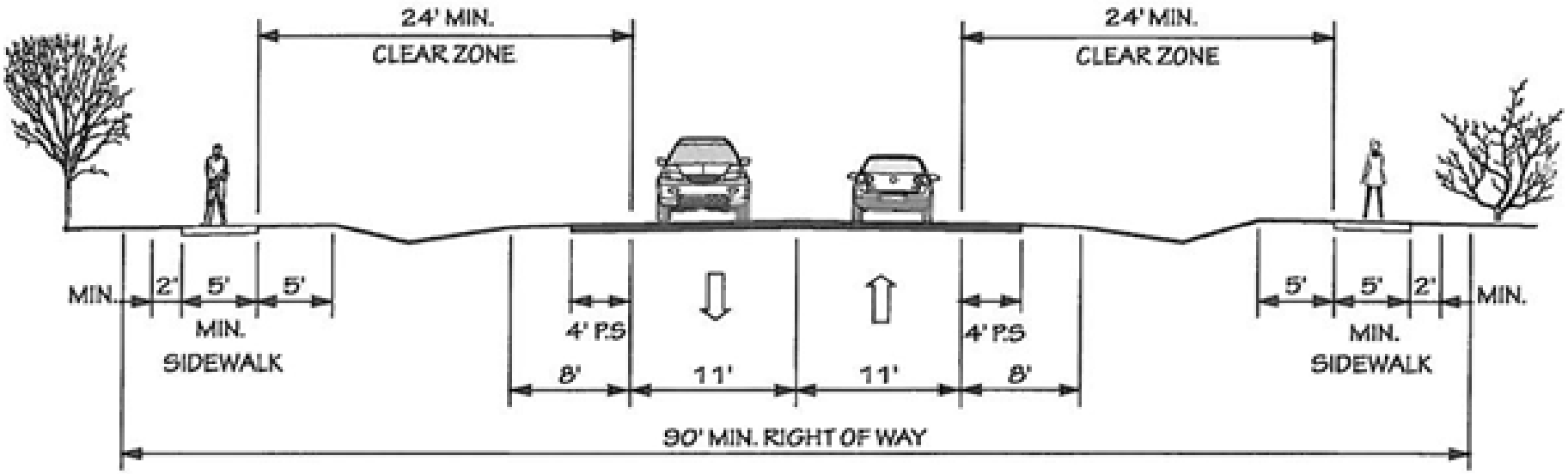
New E-B-M AMP

Input

Updating the Plan – Analyzed Network

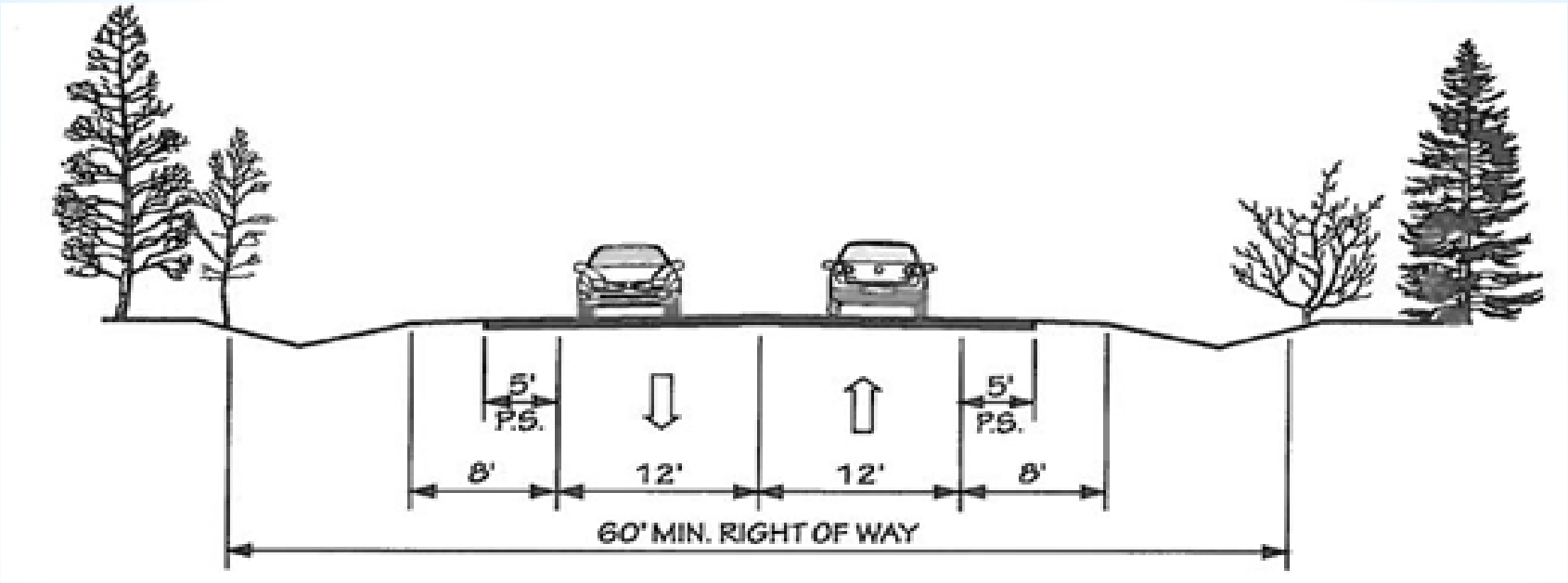


Updating the Plan – Cross Section



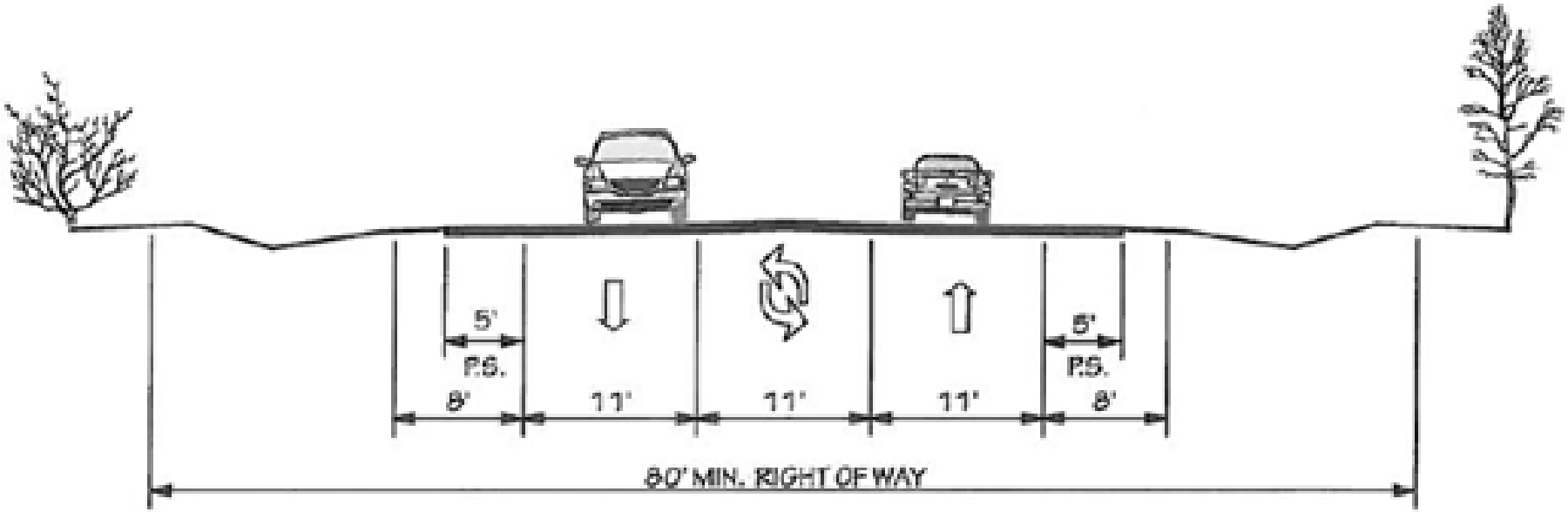
- NCDOT – “Typical” Highway Cross Section – 2D
- 2 Lane undivided with paved shoulder and sidewalk
- All streets west of Buckhorn Road

Updating the Plan – Cross Section



- NCDOT – “Typical” Highway Cross Section – 2A
- 2 lane undivided with paved shoulder
- All streets east of Buckhorn Road

Updating the Plan – Cross Section



- NCDOT – “Typical” Highway Cross Section – 3A
- 2 Lane with two way left turn lane and paved shoulder

Updating the Plan – Improvements

Intersection	Improvements
Ben Wilson Road at New Road A	South bound right turn lane North bound right turn lane West bound right and left turn lane
West Ten Road at New Road A	Right and left turn lanes in all directions
West Ten Road at Buckhorn Road	Right and left turn lanes in all directions
Mt. Willing Road at New Road H	Right and left turn lanes in all directions
US-70/I-85 Connector	West bound left turn lane East bound right turn lane Northbound right and left turn lane

Updating the Plan – Public Participation

PLANNING & INSPECTIONS DEPARTMENT
Craig N. Benedict, AICP, Director

Administration
(919) 245-2575
(919) 644-3002 (FAX)
www.orangecountync.gov

ORANGE COUNTY
NORTH CAROLINA

131 W. Margaret Lane
Suite 201
P. O. Box 8181
Hillsborough, NC 27278

August 3, 2018

RE: NOTIFICATION OF COMMUNITY MEETING.

Dear Property Owner,

This notice is to inform you of a community meeting that will be held at Gravelly Hill Middle School on Tuesday, August, 28, 2018 in the auditorium from 4:30 – 6:30 pm. This meeting is to collect community input on an update to the Efland-Buckhorn-Mebane Access Management Plan.

Access Management Plans are proposed master plans of possible new roads and connections to existing roads. These plans promote an orderly, cost effective, efficient and environmentally sensitive roadway program. These plans guide development decisions and investment.

Attendees will be provided information on the adopted 2011 Efland-Buckhorn-Mebane Access Management Plan along with additional information collected in a 2017 Transportation Study of the planning area. Your comments will help shape the area's new access management plan. Please refer to the Orange County Planning Department webpage for more information on the planning process at: http://www.orangecountync.gov/departments/planning_and_inspections/transportation_planning.php

The draft Efland-Buckhorn-Mebane Access Management Plan and public comments received at the community meeting will be reviewed by the Orange County Planning Board and Orange Unified Transportation Board (OUTBoard) in September. A formal public hearing on a proposed Access management Plan will be held by the Board of County Commissioners later this year, currently targeted for November. You will receive another written notice about the public hearing closer to the hearing date.

If you require additional assistance, please contact Nishith Trivedi, Transportation Planner, at (919) 245-2582 during normal business hours.

Over 700 notices mailed out
to property owners

ORANGE COUNTY
NORTH CAROLINA

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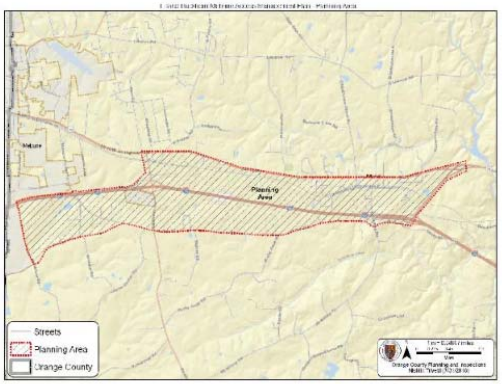
Efland-Buckhorn-Mebane Access Management Plan

Orange County is currently updating the Efland-Buckhorn-Mebane Access Management Plan (E-B-M AMP). This website provides information on the plan and its planning process. It also encourages the public involvement throughout the process.

Planning Area

The E-B-M AMP encompasses 4.25 square miles along I-85/I-40 between Efland and Mebane. It is bounded by:

- North: US Highway 70
- South: West Ten Road/Bowman Road
- East: I-85/US-70 Connector
- West: Ben Wilson Road



Map

Community Meeting

On August 28, 2018 from 4:30 – 6:30 pm, Orange County Planning Department will host a Community Meeting at Gravelly Hill Middle School, located within the planning area. Extensive outreach will be conducted to get the public involved in the planning process, this included:

Website for public participation

Updating the Plan – Public Participation

What mode of travel do you use most often?

☐ Car ☐ Bike
☐ Transit ☐ Walk

How long is your commute?

☐ 5 – 15 min ☐ 16 – 30 min
☐ 31 – 60 min ☐ > 1 hour

What roads do you use most often?

_____
_____

Do you support the proposed street cross sections? ☐ Yes ☐ No

If not, what street cross-section do you suggest?

_____
_____

Do you support the proposed street network? ☐ Yes ☐ No

If not, what street network do you suggest?

_____
_____

Any additional comments:

_____
_____

All comments included in plan

Next Step

Next Steps – Public Process & Actions

Planning Board

Public Notice & Website	Review (September)	Recommendation (October)

Orange Unified Transportation Board

Website	Review (September)	Recommendation (October)

Board of County Commissioners

Public Notice & Website	Public Hearing (November)	Consideration (November/December)

Next Step – Implementation

Orange County, NC
Code of Technical Ordinances

Unified Development Ordinance (UDO)

Adopted April 5, 2011
(As amended, see summary table)

Prepared by:
Orange County Planning Department Staff

With formatting guidance from:
Clarion Associates, LLC

Section 2.5.3 Site Plan
(V) Compliance with County adopted access management, transportation and/or connectivity plans and denote the location of future roadway(s) and access easements, …

SECTION 6.10.A
(1) Roadway Design/Improvement
(a) Whether improvements are required or not, adequate right-of-way must be dedicated to accommodate the projected right-of-way requirements as identified in adopted thoroughfare plans.

Questions?

Contact

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