

DURHAM • CHAPEL HILL • CARRBORO

DCHC

METROPOLITAN PLANNING ORGANIZATION

PLANNING TOMORROW'S TRANSPORTATION

2050 Metropolitan Transportation Plan

Alternatives Analysis → Preferred Option

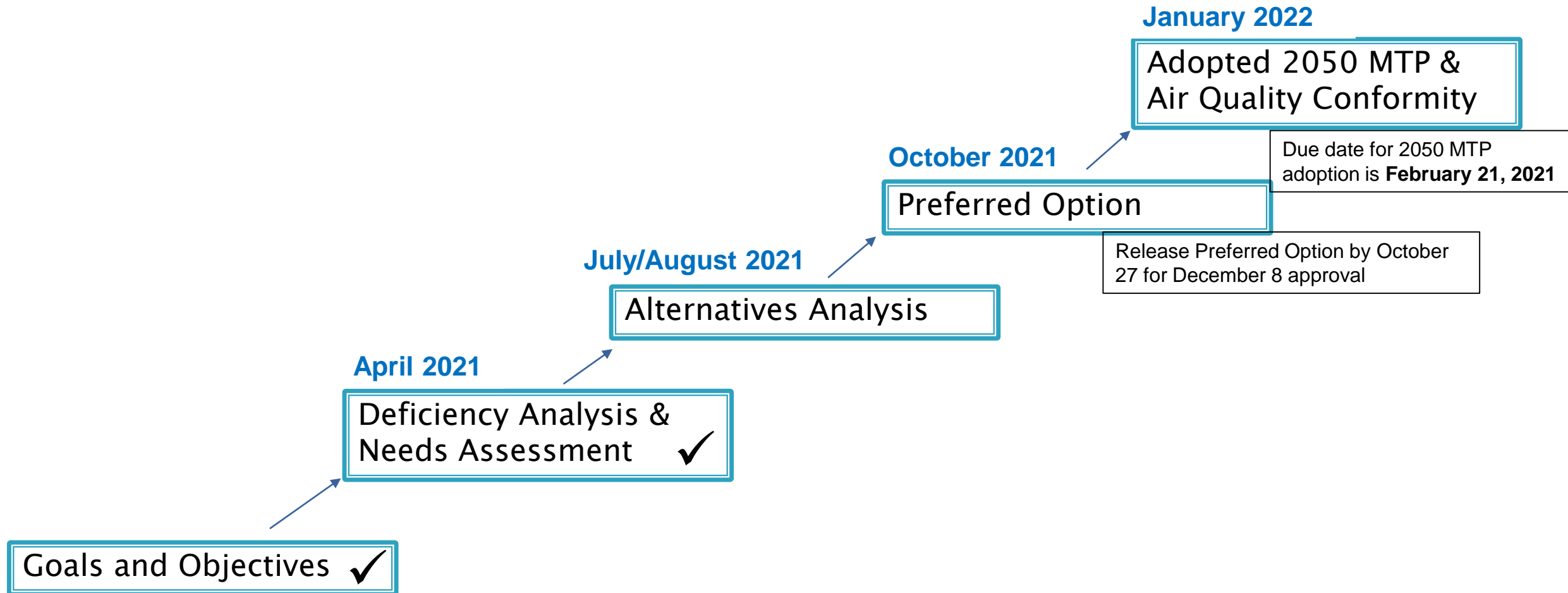
Andy Henry, andrew.henry@durhamnc.gov, September 1, 2021

Presentation Outline

- Alternatives Analysis – schedule and public engagement
- Preliminary outlook for 2050 MTP revenue
- Projects – highway, transit, bike/ped
- Land Use

***Go straight to documents and maps wherever you see link in these slides.

2050 MTP Milestones



Schedule & Public Engagement

- Released July 29th (with CAMPO)
- Comment Period: 7/29/21 through 9/15/21 (exceeds 42-day policy)
- Web page – Click Alternatives tab at this [link](#)
- Survey -- [link](#)
- Online workshops (with CAMPO), August 19, 12 noon and 4pm
- Present to local boards and commissions, list on web page
- In-person pop-ups (none scheduled)
- Focus groups for community of concern (four groups in September)
- Public hearing at September 1st Board meeting
- Notifications: Email service; public affairs notices; social media

Public Feedback

- **Survey**

- Survey closed August 29. Staff is analyzing and summarizing the results.

- **Deficiency Analysis**

- See attached compilation and summary of public comments from Deficiency Analysis (June-July 2021).

- **Updates**

- Staff will provide updates of public feedback from all sources, e.g., survey, online workshop, focus groups, boards/commission, at subsequent meetings.

Preliminary Financial Info -- Revenue

DURHAM-CHAPEL HILL-CARRBORO MPO		2045 MTP	2050 MTP	2050 MTP	2050 MTP
		Adopted	Plans & Trends	Shared Leadership	All Together
General State/Federal Capital Funding*		\$ 2,734	\$ 7,865	\$ 7,865	\$ 7,865
	Statewide Category	\$ 1,676	\$ 4,403	\$ 4,403	\$ 4,403
	Regional Category	\$ 609	\$ 1,953	\$ 1,953	\$ 1,953
	Division Category	\$ 413	\$ 1,509	\$ 1,509	\$ 1,509
Local Funding (non-transit)		\$ 15	\$ 20	\$ 20	\$ 20
Private Funds		\$ 10	\$ 1	\$ 1	\$ 1
CMAQ Funding		\$ 42	\$ 55	\$ 55	\$ 55
Toll Revenue		\$ 199	\$ -	\$ -	\$ -
Cont. Transit Funding to Support Existing Svs		\$ 1,376	\$ 1,947	\$ 1,947	\$ 1,947
Funding for New/Expanded Transit Svs		\$ 2,995	\$ 1,653	\$ 1,653	\$ 1,653
Maintenance & Operations (Highway Fund)		\$ 2,210	\$ 5,573	\$ 5,573	\$ 5,573
NC First Commission Revenue				\$ 2,200	\$ 2,200
Additional 1/2 Cent Transit Tax Revenue					\$ 1,168
GRAND TOTAL		\$ 9,581	\$ 17,115	\$ 19,315	\$ 20,483
Last updated: August 17, 2021					
Values in 2020 Millions \$	Years ==>	2018-2045	2021-2050	2021-2050	2021-2050
	Total Years ==>	28	30	30	30

Uses

Hwy, other

Transit, B&P

Transit only

Transit only

Mtce only

Hwy, other

TBD

2045 MTP to 2050 MTP Changes

- State/fed capital & maintenance much higher (staff is verifying with NCDOT financial model)
- Overall, transit ~\$770m less (no LRT)
- In previous MTPs, MPO has flexed some state/fed capital to transit and bike/ped in 2nd and 3rd decade.

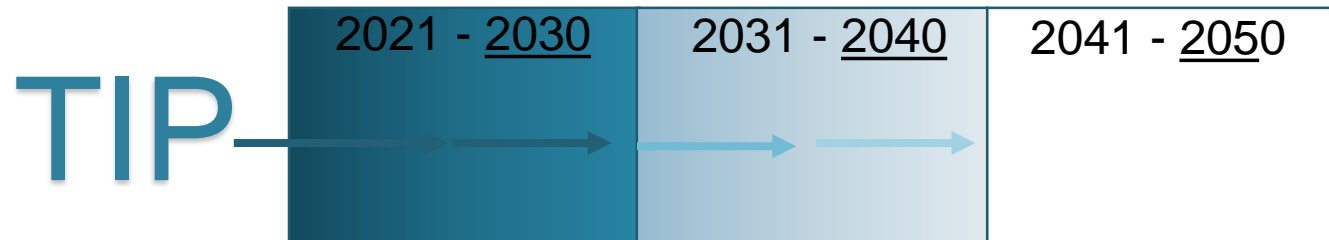
Preliminary Financial Info – Revenue (cont.)

Two more key points:

1) MPO must balance costs and revenues inside 3 ten-year horizons.

DURHAM-CHAPEL HILL-CARRBORO MPO	PLANS & TRENDS			2050 MTP
	2021-2030**	2031-2040	2041-2050	2021-2050
General State/Federal Capital Funding*	\$ 3,417	\$ 2,086	\$ 2,362	\$ 7,865
Local Funding (non-transit)	\$ 20	\$ -	\$ -	\$ 20
Private Funds	\$ 1	\$ -	\$ -	\$ 1
CMAQ Funding	\$ 22	\$ 18	\$ 15	\$ 55
Toll Revenue	\$ -	\$ -	\$ -	\$ -
RDU Airport Funds	\$ -	\$ -	\$ -	\$ -
Continued Transit Funding to Support Existing Services	\$ 649	\$ 649	\$ 649	\$ 1,947
Funding for New/Expanded Transit Services	\$ 456	\$ 548	\$ 649	\$ 1,653
Maintenance & Operations (Highway Fund)	\$ 1,425	\$ 1,823	\$ 2,326	\$ 5,573
GRAND TOTAL	\$ 5,990	\$ 5,124	\$ 6,001	\$ 17,115

2) Costs and revenues for nearly all of 2030 horizon and part of 2040 horizon will be based on most recent Transportation Improvement Program (TIP)

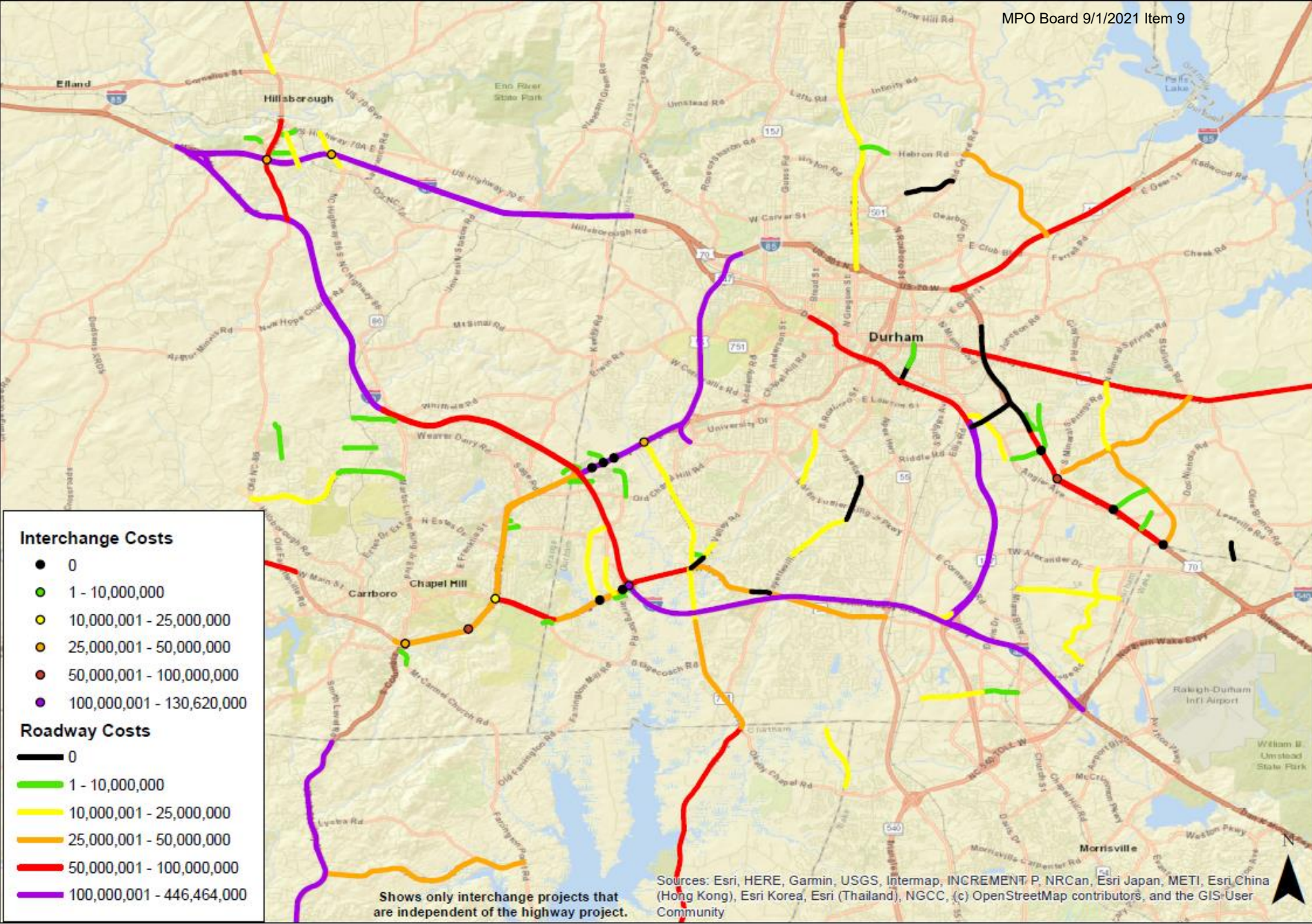


Preliminary Highways

Category	Projects	Total Costs
0\$	17	\$ -
\$0 - \$10m	26	\$ 133
\$10m - \$25m	23	\$ 365
\$25m - \$50m	16	\$ 602
\$50 - \$100m	15	\$ 1,097
\$100+	9	\$ 1,798
Total	106	\$ 3,996
(\$ in millions)		

Costs updated to year 2020

- These preliminary total costs will rise (add'l projects, cost increases; maybe \$5B)
- If need to reduce costs, don't get much impact by eliminating less costly projects



Preliminary Highways

Top 20 projects (in cost) from 2045 MTP

Project	From_	To_	Improvement	TIP ID	Estimated Cost *
I-40 Managed Lanes	Wake County Line	NC 147	Widening	I-5702B	\$ 446,464,000
NC 147 (possible managed lanes)	Future I-885	I-40	Widening	U-5934	\$ 250,947,200
I-40 Managed Lanes	NC 147	NC 54	Widening	I-5702A	\$ 250,290,000
US 15-501 (expressway conversion)	US 15-501 Bypass	I-40	Expressway	U-6067	\$ 195,183,000
I-85	Orange Grove Rd	Sparger Rd	Widening	I-0305	\$ 186,760,000
US 15-501	Smith Level Rd	US 64	Synchronized Street	U-6192	\$ 117,700,000
US 15-501 Bypass	MLK Parkway	I-85	Widening	N/A	\$ 113,027,600
I-40	NC 86	I-85	Widening	I-3306AA	\$ 107,290,000
US 70 (freeway conversion)	S Miami Blvd	MPO Boundary	Freeway	U-5720C	\$ 95,340,000
US 70 (freeway conversion)	Lynn Rd	S Miami Blvd	Freeway	U-5720A	\$ 87,780,000
Holloway St (NC 98)	Miami Blvd	Nichols Farm Dr	Modernization	N/A	\$ 85,800,000
I-40 Managed Lanes	NC 54	US 15-501	Widening	I-5702A	\$ 85,621,000
NC 147 (operational improvements)	W Chapel Hill St	Briggs Av	Modernization	U-5937	\$ 81,323,200
S Churton St	Eno River in Hillsborough	I-40	Widening	U-5845	\$ 79,178,000
NC 751	Martha's Chapel Rd	O'Kelly Ch. Rd	Widening	H190434	\$ 69,400,000
I-40	Durham County line	NC 86	Widening	I-3306AB	\$ 68,851,000
Wake Forest Hwy (NC 98)	Nichols Farm Dr	Wake County Line	Widening	N/A	\$ 67,863,600
I-85	US 70	Red Mill Rd	Widening	I-6010	\$ 64,171,000
NC 54	Fordham Blvd (US 15-501)	Barbee Chapel Rd	Modernization	U-5774B	\$ 59,234,000
NC 54	I-40 Interchange	NC 751	Widening	U-5774G	\$ 55,100,000

Are there projects the MPO wants to take out of the 2050 MTP?

*Costs updated to year 2020.

Commuter Rail Transit

- Service options (low 8-2-8-2, high 12-8-12-8)
- Extension from west Durham to Hillsborough

Bus Rapid Transit

- North-South BRT (Chapel Hill)
- US 15-501 BRT (Durham-Chapel Hill)
- NC 147 BRT (Durham-RTP)
- NC 54 BRT (Chapel Hill-RTP)

Bus

- Improved intensity and coverage
- Improved local and regional connections
- High frequency bus service in commuter corridors
- Infrastructure (shelters, access, etc.)
- BOSS (bus on shoulder)

* Follow county transit plans through 2040. What to include for 2041-2050?

* Some highway improvements could support transit, e.g., BRT on NC 147 and US 15-501

* Stage some transit services? e.g., high frequency service with queue jump lanes, etc. to BRT.

DCHC MPO did not list or map Bus transit in 2045 MTP, but:

- Needs to be in financial plan; and,
- Needs to be in the travel model
- MPO list roadway related capital improvements (e.g. BOSS – bus on shoulder, TEC - Transit Emphasis Corridor)

Excerpt from 2045 MTP report.

Excerpt from 2045 MTP report.

7.3 Fixed Guideway and Premium Transit Services

A number of extensive transit planning efforts that have taken place in the last decade have resulted in transit plans in Durham, Orange, and Wake Counties. These county plans provide new dedicated revenue sources to finance significant transit improvements, including projects to produce enhanced regular bus service, implement high-quality fixed-guideway transit projects, build improved transit infrastructure, and develop new services to connect job centers and population centers throughout the region.

The specific projects included in this 2045 MTP include:

- The Durham-Orange Light Rail Transit (D-O LRT) Project, a light-rail system connecting Chapel Hill and Durham. The project is currently within the Engineering phase of the Federal Transit Administration (FTA's) Capital Investment Grants/New Starts program and is under active development. The project is anticipated to begin construction in 2020 and be completed by 2028. Further information about D-

7.4 Frequency- and Coverage-Based Bus Services

The 2008 Special Transit Advisory Committee (STAC) produced an initial report identifying the need for additional transit services and setting forth a vision for providing higher-quality transit services along multiple transportation corridors within the MPOs. This effort sparked additional planning efforts throughout the region involving multiple counties, municipalities, residents, and other stakeholders. These different efforts coalesced into three transit plans that direct dedicated revenue to a variety of transit projects throughout the region:

Further information about the projects are included in the Durham County Transit Plan, Orange County Transit Plan, and Wake Transit Plan. Please visit ourtransitfuture.com, waketransit.com, and gotriangle.org for copies of the plans and updated information.

Bicycle and Pedestrian

- Bicycle and pedestrian projects were not listed or mapped in the 2045 MTP →
- Why? MTP not used in development and project review
- Report appendix listed regional routes.
- \$292m in costs in 2045 MTP

Appendix 4. Bicycle and Pedestrian Projects

Background

The 2045 MTP does not specifically list the bicycle and pedestrian projects. The local jurisdictions and counties have identified, and in many cases prioritized these projects and have coordinated their interaction in the jurisdiction boundary areas through the DCHC MPO. As a result, the 2045 MTP defers to those local governments.

Exempt Projects

All the bicycle and pedestrian projects are deemed exempt from the air quality conformity determination according to Title 40, Code of Federal Regulations (CFR), PART 93.126. The most important implication of this exemption is that the projects may proceed toward implementation in the absence of a conforming transportation plan or Transportation Improvement Program (TIP).

Durham-Chapel Hill-Carrboro MPO Regional and Statewide Bicycle Routes

A major objective of the 2045 Long-Range Transportation Plan is to identify regional bicycle routes in the Durham-Chapel Hill-Carrboro MPO region. Regional bicycle routes have several characteristics, as follows:

- Provide links between major destinations and between urban centers.
- Facilitate primarily utilitarian bicycle trips, though the routes can also serve recreational cycling.
- Serve as a backbone to a finer grained system of local bicycle routes in each jurisdiction.

The regional bicycle route map identifies a variety of corridors in need of improved bicycle facilities. The map primarily identifies on-road routes, but off-road routes are also identified. The regional routes will be evaluated from time-to-time, including future updates of the long-range transportation plan.

DCHC MPO Regional Routes

In planning the regional bicycle routes, twelve specific zones of connections were targeted. The following listing shows the identified regional routes within each zone of connection:

Connections between Carrboro and Chapel Hill

- Homestead Road
- Homestead Road / Weaver Dairy Road
- Morgan Creek Trail (off-road) / Columbia Street
- Bolin Creek Trail (off-road)
- The Campus to Campus Connector (on and off-road connecting UNC-CH main campus to Carolina North)

Connections between Carrboro-Chapel Hill and Hillsborough

- Columbia Street / NC 86
- Old NC 86/Churton Street between Hillsborough Rd. (Carrboro) and Orange Grove Rd. (Hillsborough)

Connections between Carrboro-Chapel Hill and Chatham County

- Smith Level Road / US 15-501
- US 15-501

TDM, ITS, TSM

- Not listed in 2045 MTP
- Described in report
- \$249m in costs in 2045 MTP

Cost Category (millions \$)		DCHC Total	TIP/'18 to '25	'26 to '35	'36 to '45
Roadways & Alternative Transportation					
	Roadways (STI Statewide)	\$ 2,618	\$ 480	\$ 1,048	\$ 1,090
	Roadways (STI Regional)	\$ 390	\$ 24	\$ 190	\$ 176
	Roadways (STI Division)	\$ 443	\$ 53	\$ 167	\$ 223
	Maintenance & Operations (Highway Fund)	\$ 3,525	\$ 874	\$ 1,242	\$ 1,409
	Bicycle & Pedestrian (STI Division)	\$ 292	\$ 62	\$ 130	\$ 100
	Transportation Demand Management (STI Division)	\$ 44	\$ 9	\$ 20	\$ 15
	Intelligent Transportation Systems (STI Statewide)	\$ 74	\$ 14	\$ 35	\$ 25
	Transportation System Management (All Categories)	\$ 131	\$ 27	\$ 60	\$ 45
Roadways & Alternative Transportation Cost Total		\$ 7,518	\$ 1,542	\$ 2,892	\$ 3,083

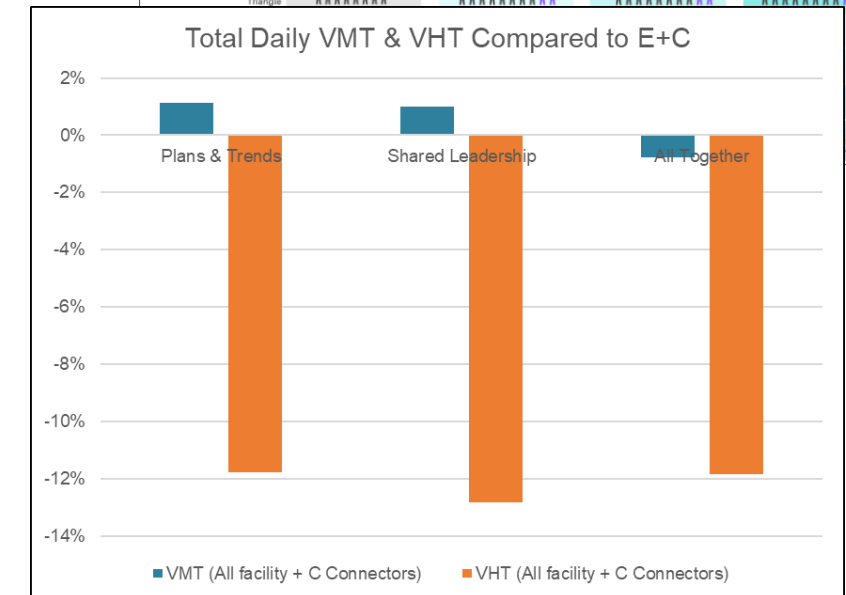
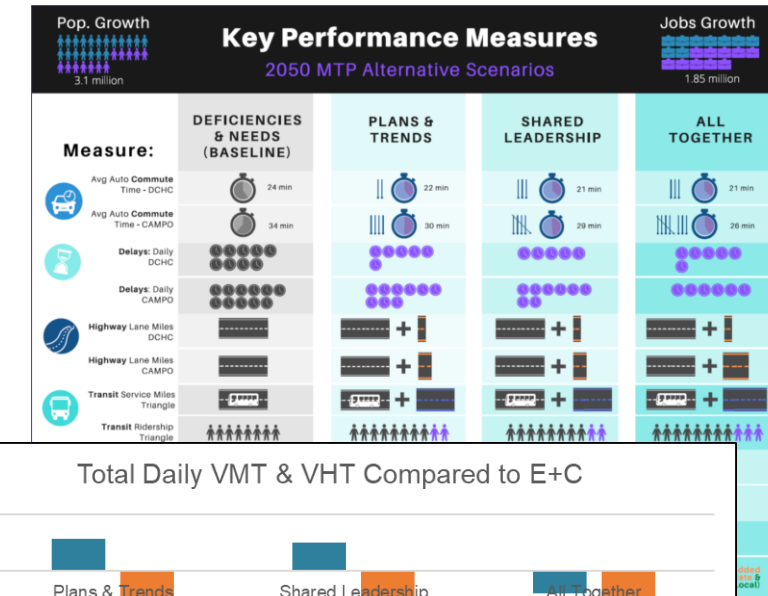
Land Use

- Plans & Trends – Based on current land use plans and policies
 - Shared Leadership/All Together – Based on Opportunity Places
 - Aspirational development at anchors (universities, medical centers, RTP)
 - Increased density and land use mix at key hubs along major corridors
 - Increased legally binding affordable housing along transit corridors
- Requires changes to current land use plans and policies

Stubborn VMT

In DCHC MPO, VMT will increase ~75% from 2020 to 2050 (based on Triangle Regional Model)

- Funding: Great majority of state and federal funding must be invested in roadways.
Antidote – flex funding to non-auto travel
- Land Use: Car-oriented sprawl dominates.
Antidote - smart growth
- Pricing: Subsidized roadways and vehicle transportation. *Antidote: parking pricing and policy, congestion pricing, pay-as-you-drive, gas taxes (for externalities)*
- TDM: Incentives to reduce single-occupied vehicles (SOV)



... higher VMT = more congestion, pollutant emission, and climate change.

Next Steps

- Complete public engagement activities and review feedback
- Modeling, financial and other technical work to support Preferred Option
- Coordinate project selection with local planners.
- Coordinate with Durham and Orange county transit plans
- Joint DCHC MPO and CAMPO Board meeting, September 29