



TCC and TAC Update

April 21, 2020

Presented by VHB



Presentation today

- Update on Burlington-Graham Metropolitan Planning Organization (BGMPO) Metropolitan Transportation Plan (MTP) process
- Review draft list of projects for MTP 2045
- Provide feedback

Timeline



Adoption Postponed by 1 Month

We are here

Additional public input





2nd Public Input Meeting January 21, 2020 Gibsonville Community Center

Projects the attendees were strongly in support of:

- Bike/ped projects that increase safety, particularly Graham-Hopedale and Church St
- Mebane public transit, bicycle and pedestrian improvements
- Mebane Park and Ride lot (lots)

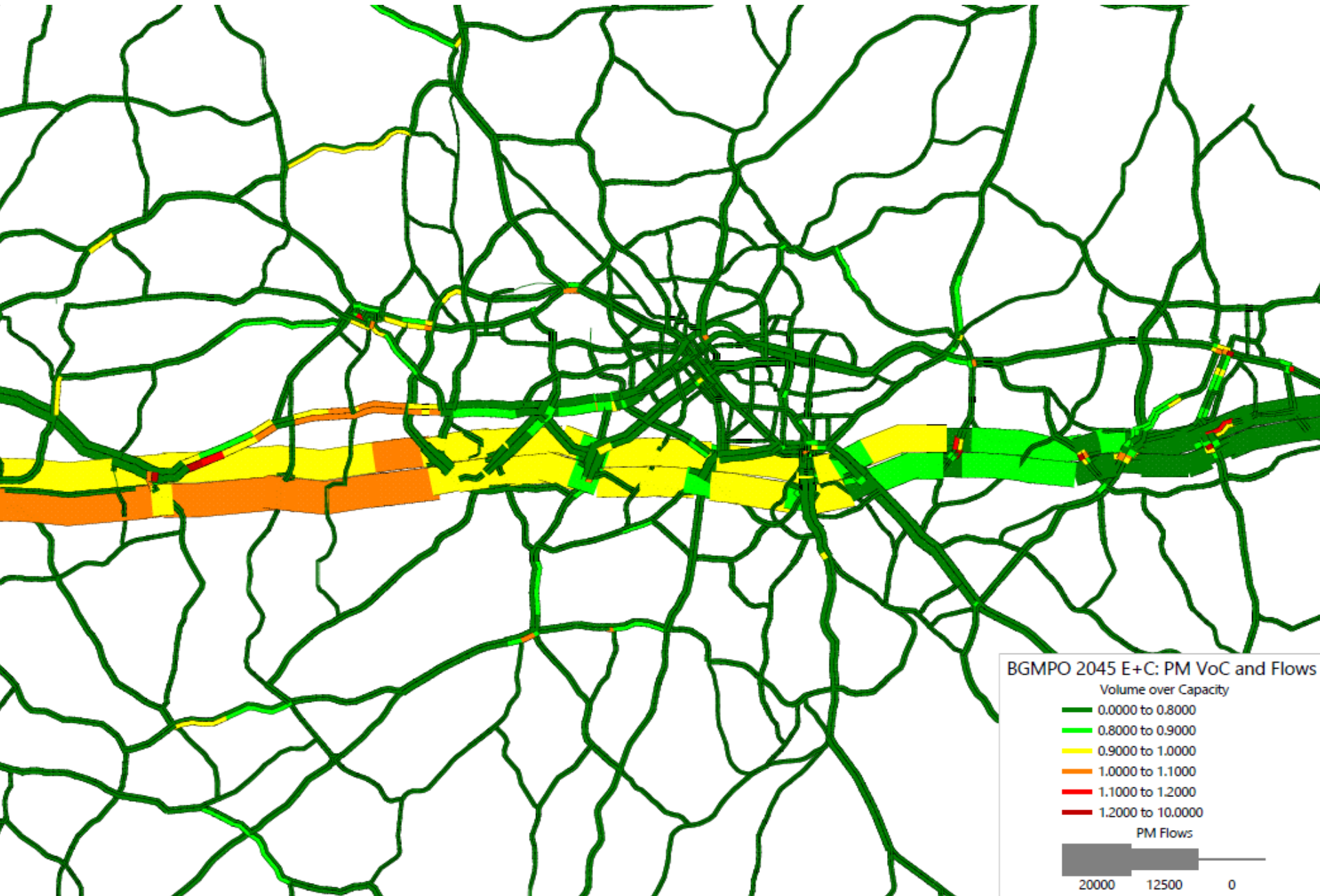
Projects that the attendees would oppose or have concerns with:

- Widening of Highway 70 between Main Street and 5th Street (STIP Project U-6009)

Any projects that should be added to the list:

- Bicycle connections along Hwy 70 between Elon-Burlington-Mebane
- Mebane Commuter Rail
- I-40/I-85-NC 61 Interchange area (truck traffic/ Love's at this interchange)
- Mebane SPOT 6.0 highway projects
- Mebane SPOT 6.0 bike/ped projects

Travel Demand Model results presented at Steering Committee Meeting March 17, 2020

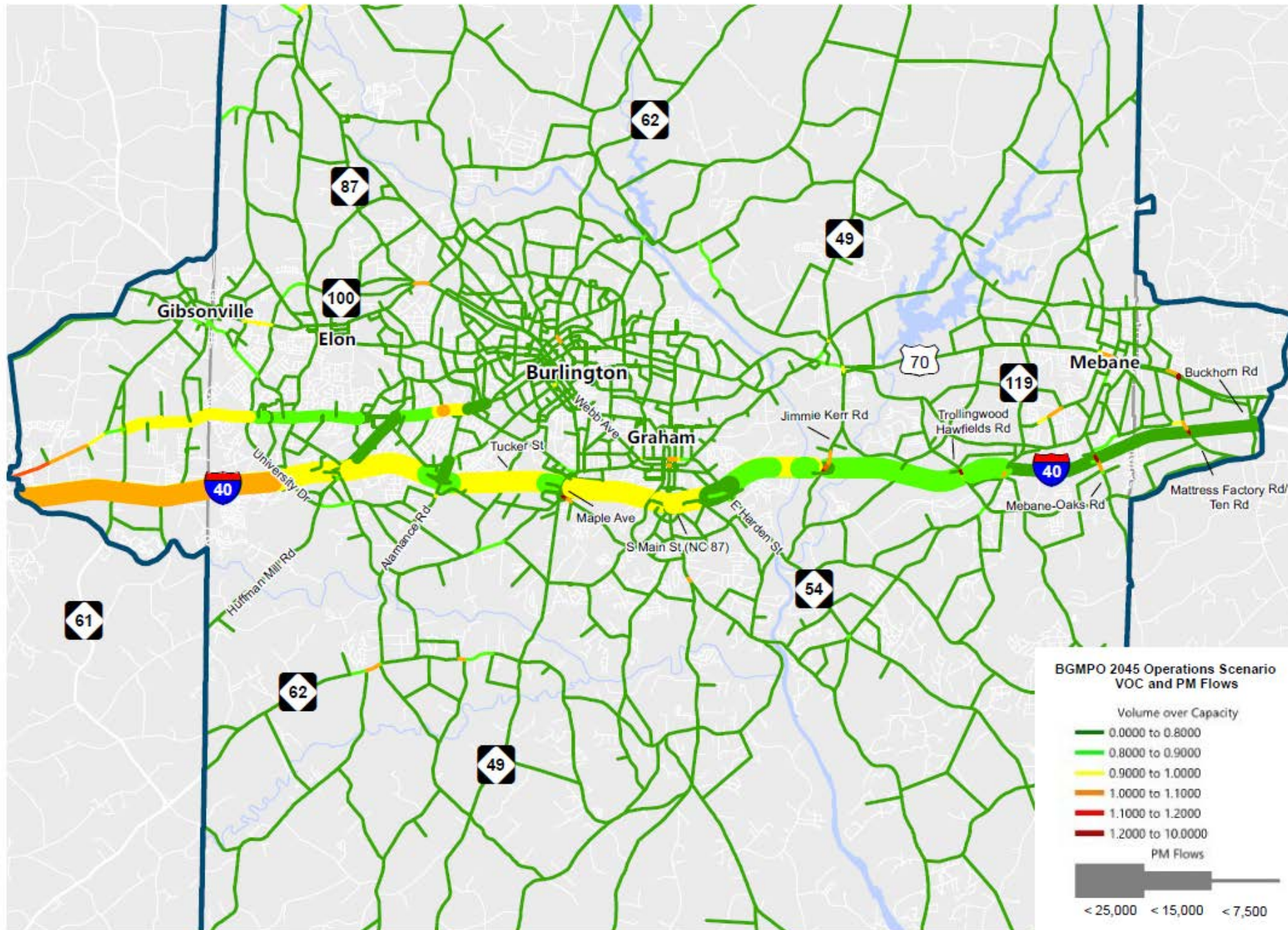


E+C 2045 Conditions-Travel Demand Model

Operations & Safety Scenario 2045 Conditions

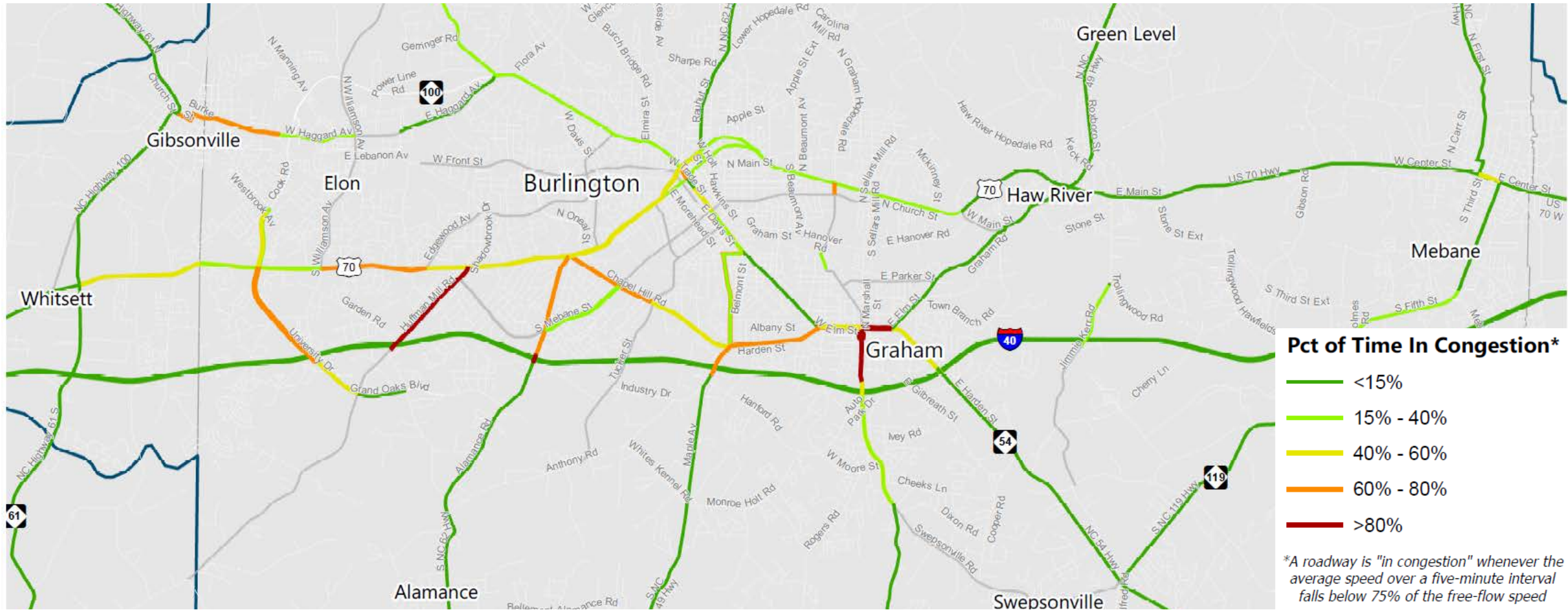
Travel Demand Model Limitations

- Intersection improvement/modernization projects difficult to account for
- External stations for travel from the east-Triangle Regional Model-difficulties with intergration
- Likely TDM over-assigns trips to I-40/I-85



PM Peak Congestion based on afternoon peak travel speeds, 2018 HERE cell phone data

- PM peak congestion critical on US 70 and on major arterials connecting US 70 and I-40



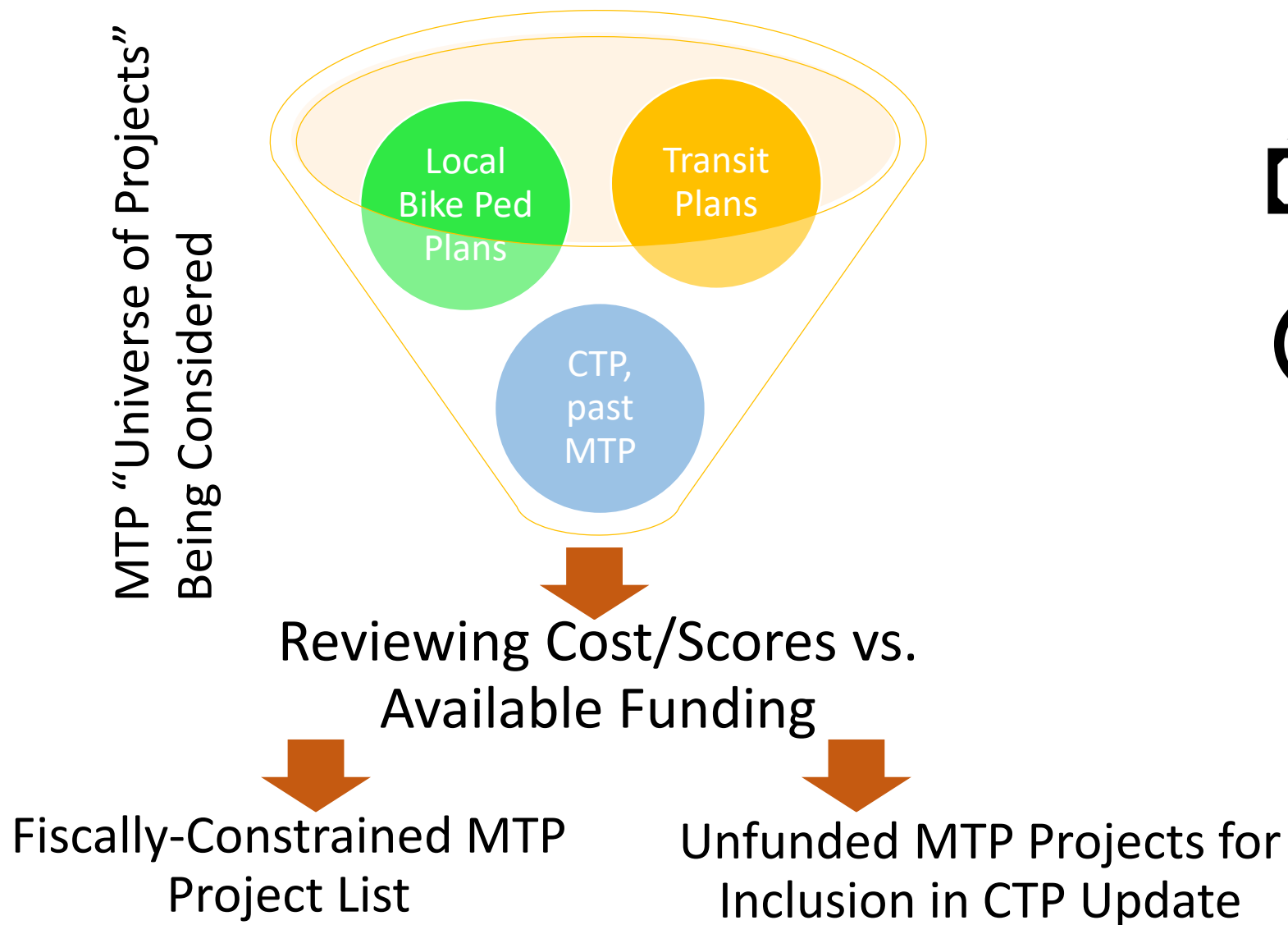
PM Peak Period (4-6 PM) Congestion using HERE Data, 2018 Tues-Thurs.

Scoring Component	Description of Roadway Scoring Component	Points Assignment (out of 100 Total)
Congestion	Projects were ranked based on future Volume to Capacity (utilizing Travel Demand Model output); projects where Volume to Capacity in the Travel Demand Model put them at a low congestion score, but where the associated STI Prioritization submittal projects were receiving a high congestion score in the STI Prioritization had the score adjusted	20 points for top 10 projects based on congestion; 10 points for the next top 10 projects (11-20); 5 points for the 21-30 th projects; 0 below 30 th project based on congestion ranking
Cost-Benefit Analysis	Qualitative measure intended to reflect a reduction in congestion vs. relative cost of a project. Measured on a standardized continuous scale (0-10) based on cost per mile with a congestion reduction multiplier	Point range from 0.28 – 12.33 for lines and 1.57 – 20.01 for points. Cost standardization formula: $[1/(\text{PerMileCost}/\text{MedianCost})] * \text{Bounding Multiplier}$. Multiply standardized cost by 2 for top 10 projects based on congestion; 1.5 for next top 10 projects (11-20); 1.25 for the 21-30 th projects; 1 for projects below 30 th based on congestion ranking

Scoring Component	Description of Roadway Scoring Component	Points Assignment (out of 100 Total)
Economic Development	Roadway projects connecting to or crossing a TAZ that is in the top tier for expected employment growth numbers out to 2045	20 points for projects connecting to TAZ that are in the top 10 for the region for # of expected job growth in 2017-2045; 10 points for connections to TAZ(s) that are in the top 20 in the region for the # of expected job growth; 5 points for connections to TAZs that have existing or future employment of 500+
Safety: Railroad Crossing Safety component, Potentially Hazardous Intersections component, Potentially Hazardous Section /HSIP component	<p>Railroad Crossing Safety: for corridor projects or intersection improvements expected to bring improvements in safety to at-grade crossing quantified based on # of trains per day and AADT on roadway corridor or have seen at least one known fatality in the last 10 years</p> <ul style="list-style-type: none"> • Intersection or corridor projects overlapping with NCDOT-identified Potentially Hazardous Intersection Locations (by County, NCDOT data) for 2019 Cycle • Intersection or corridor projects overlapping with NCDOT-identified Potentially Hazardous Section Locations (by County, NCDOT data 2019) 	10 possible points for projects overlapping with top 10 locations for railroad crossing exposure ranked by AADT*Number of trains per day; up to 5 possible points for projects overlapping with 11-20 th top locations for railroad crossing exposure ranked by AADT & number of trains per day or at least 1 fatality in the last 10 years; 10 possible points for intersection or corridor projects overlapping with NCDOT-identified Potentially Hazardous Intersection Locations NCDOT-identified Potentially or NCDOT-identified Hazardous Section Locations (by County, NCDOT data) for 2019

Scoring Component	Description of Roadway Scoring Component	Points Assignment (out of 100 Total)
Multi-Modal Score for Roadway Projects	<p>Prioritizing roadway projects with bicycle, pedestrian and transit elements that are located within proximity of key community destinations (STI Prioritization Points of Interest: Government buildings; Fire/EMS; Transit routes; Schools (K-12, public/private), universities, colleges; Parks (national, state, local); Tourist destinations (historic districts, major sports); Medical (hospitals and public/private clinics); Places of worship; Adult education centers; Employment centers; tourist destinations (museums, theaters, auditoriums, historic landmarks) shelters)</p>	<p>20 points for roadway projects with specified multi-modal elements that connect to 20+ key community destinations (STI Prioritization Points of Interest); 10 points for roadway projects with multi-modal elements that connect to 10-20 Points of Interest; 5 points for roadway projects with multi-modal elements that connect to 5-10 Points of Interest</p>
Total Roadway Projects Score		Out of 100

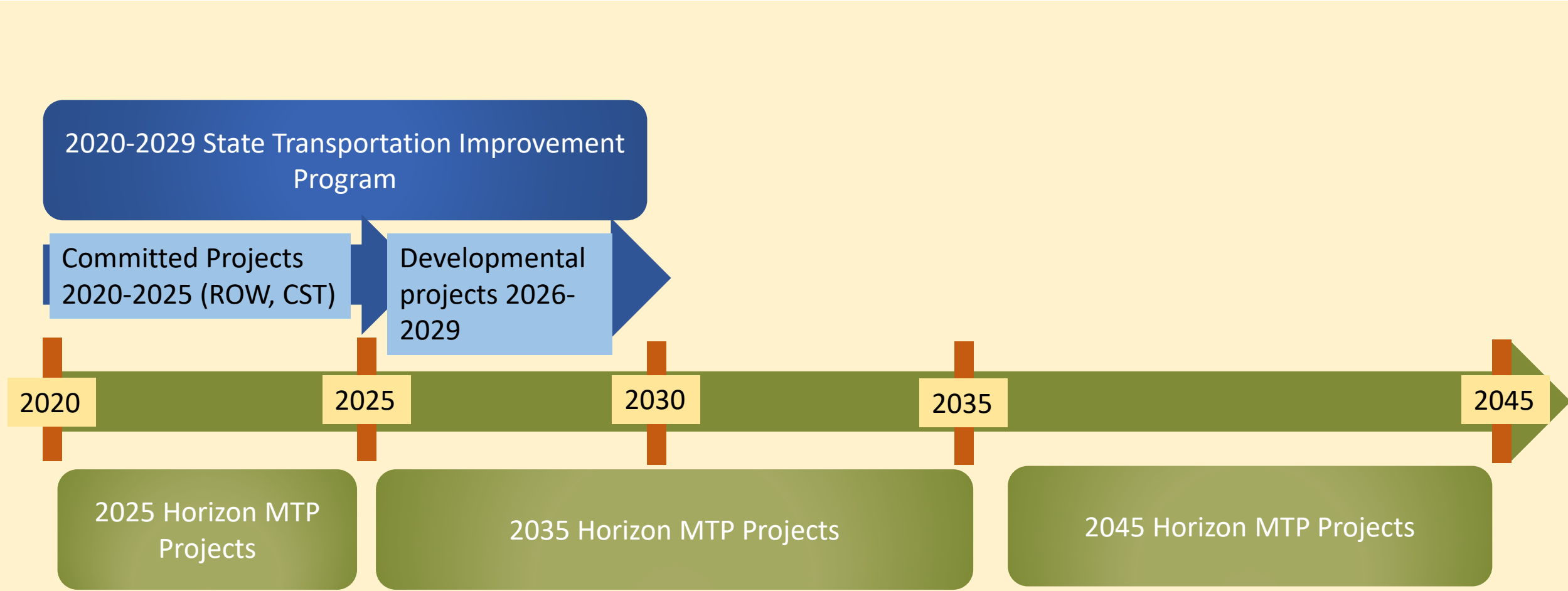
Fiscally-Constrained Plan



BGMPO Fiscal Forecast by Funding Category, \$ Millions

STATEWIDE MOBILITY		2025-2034 Funding, Millions	2035-2045 Funding, Millions	Total, 2025-2045, Millions
	BGMPO		\$171.555	\$213.7
REGIONAL IMPACT		2025-2034 Funding, Millions	2035-2045 Funding, Millions	Total, 2025-2045, Millions
	BGMPO		\$128.7	\$160.3
DIVISION NEEDS		2025-2034 Funding, Millions	2035-2045 Funding, Millions	Total, 2025-2045, Millions
	BGMPO		\$100.1	\$124.7

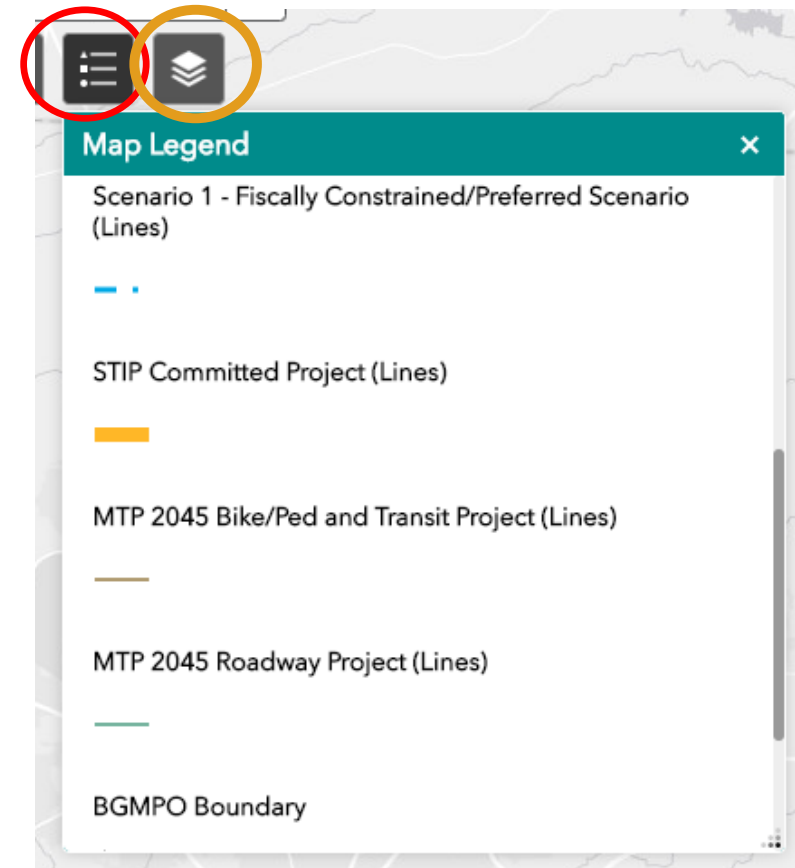
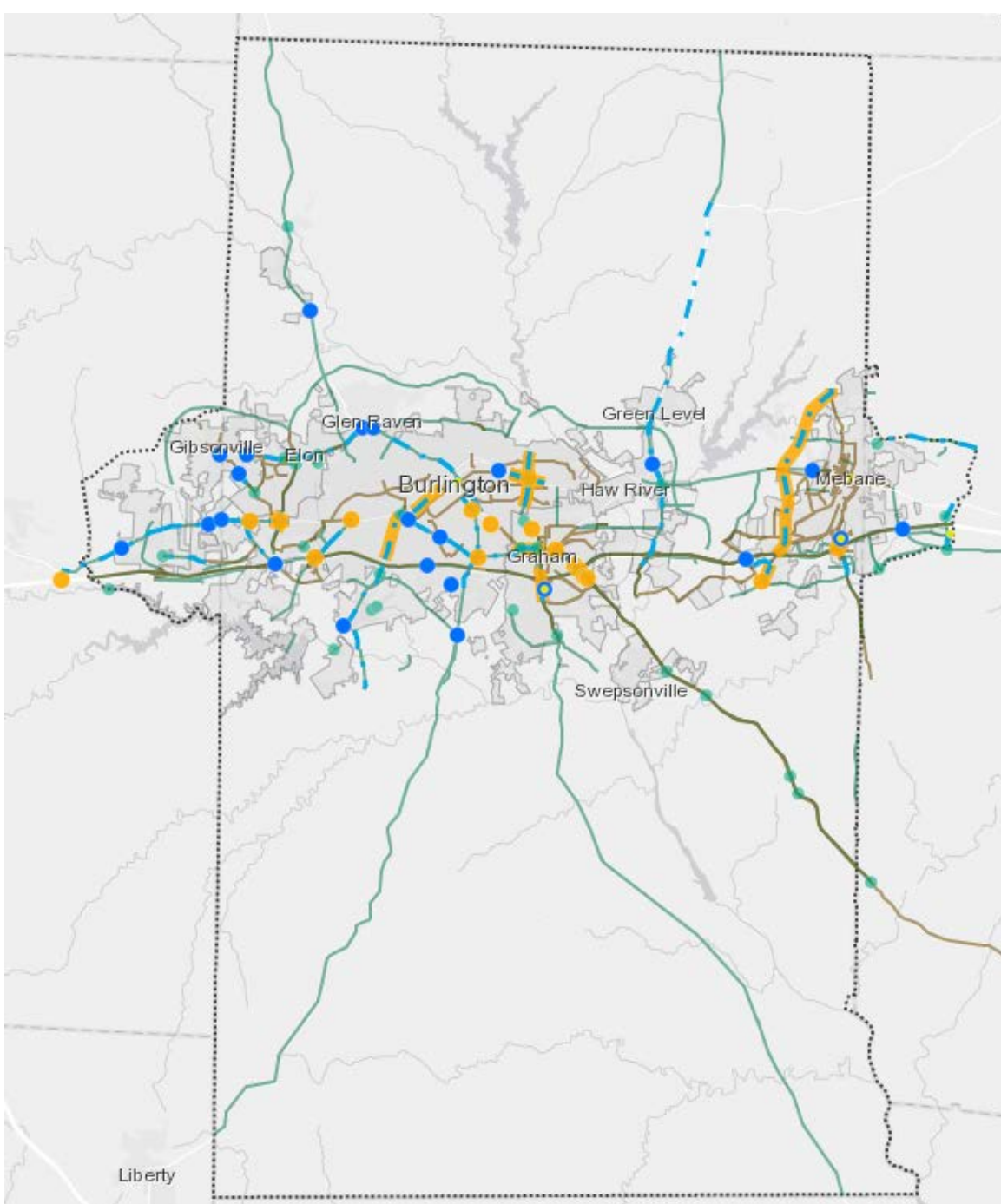
MTP Recommended Projects: Horizon Years vs. 2020-2029 STIP



Additional Considerations for Project Selection, apart from Roadway Project Score

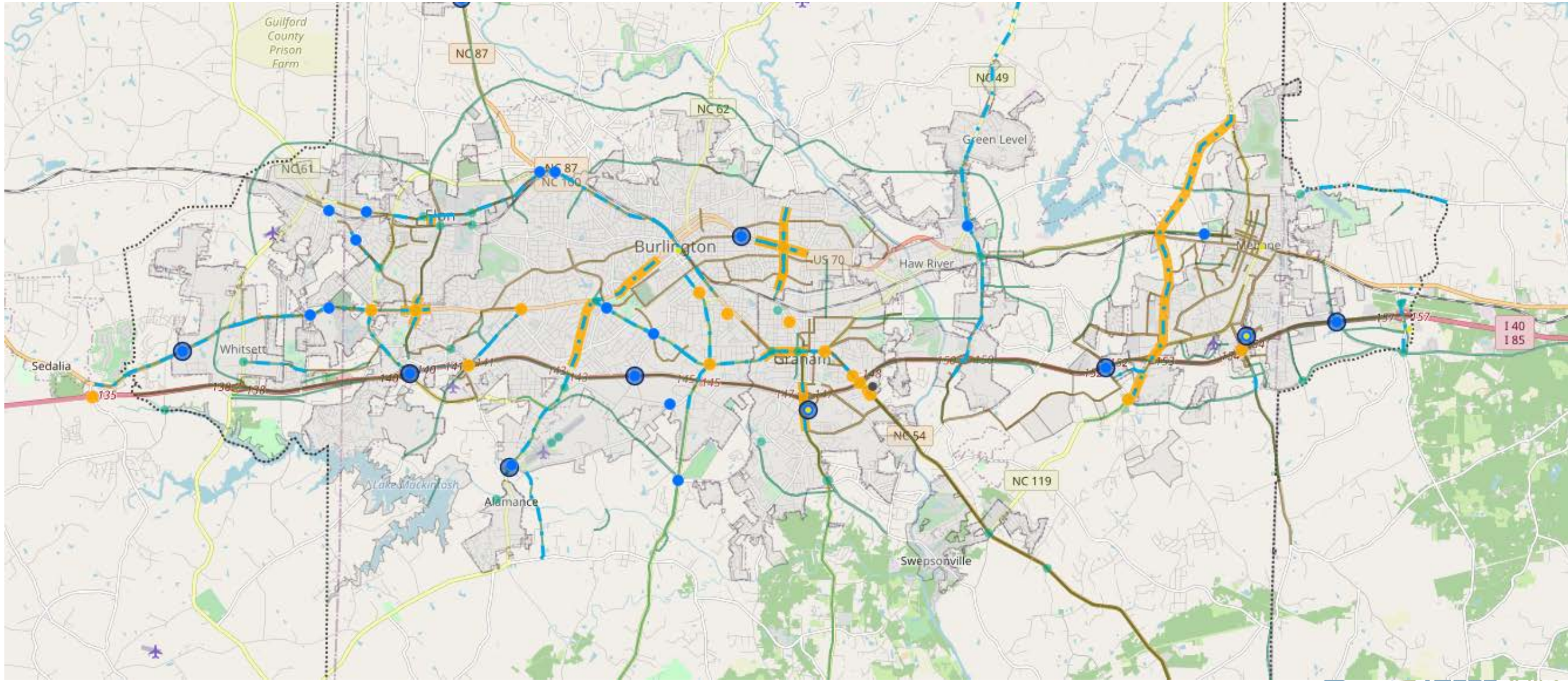
- US 70 Corridor Connecting Communities
- Improving Access to Interstate I-40/I-85
- Urban Core-Roadway Corridors Modernization
- Implementing Recently-Completed Corridor Studies

Online interactive map showing fiscally-constrained (draft) projects list at bit.ly/bgmpo_MTP2045 (MTP needs to be capitalized)



Legend: “MTP 2045 Projects” are those projects that are currently unfunded “Fiscally constrained projects” are in the draft MTP 2045 list
Map layers can turn layers on/off

Zoom-in Map View



2035 Horizon STIP Projects- Existing + Committed Roadway Projects

STIP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
I-6004	Interchange Improvements	I-40/I-85 at Rock Creek Dairy Road, upgrade interchange	I-40/I-85	Rock Creek Dairy Road		\$5,510,000
I-6009	Interchange Improvements	I-40/85 at Huffman Mill Road Interchange Improvements. Construct additional turn lane on I-40 WB ramp and improve operations at SR 1308 (Garden Rd) intersection	I-85/I-40	Huffman Mill Road		\$1,533,000
U-6115	Intersection	NC 54 Intersection Improvements and Upgrade Culvert, Riverbend Road to Whittemore Road	NC 54	Riverbend Road	Whittemore Road	\$6,960,000
U-6131	Intersection	NC 54 Intersection Improvements at Maple Ave	NC 54	Maple Ave		\$1,600,000
U-6132	Intersection	N. Main Street W. Parker Street Intersection Improvements	N. Main Street	W. Parker Street		\$3,000,000

2035 Horizon Fiscally Constrained List Roadway Projects

MTP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
Int-03	Interchange Improvements	I-40/I-85 at University Drive interchange improvements	I-40/I-85	University Ave		\$12,400,000
Hwy-172	Intersection	Garden Road at Boone Station Dr Intersection Improvements	Garden Rd at Boone Station Drive			\$4,428,000
Hwy-173	Intersection	NC 54 (Chapel Hill Road) Intersection Improvement at Tucker St	NC 54/Tucker Street Intersection			\$4,428,000
Hwy-174	Intersection	Anthony Road Intersection Improvement at Industry Dr	Anthony Road	Industry Drive		\$4,428,000
Hwy-175	Intersection	NC 49 (Maple Avenue) Intersection Improvement at Monroe Holt Rd	NC 49	Monroe Holt Road		\$2,100,000

2035 Horizon Fiscally Constrained List Roadway Projects-Continued

MTP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
Hwy-177	Intersection	Realign Anthony Road to connect to Kirkpatrick Road at NC 62.	NC 62 at Anthony Road/ Kirkpatrick Road			\$14,338,000
Hwy-194	Intersection	US 70 from Springwood Dr to Rock Creek Dairy Rd, Intersection Improvements	US 70	Springwood Dr	Rock Creek Rd	\$4,428,000
I-6059	Intersection	I-40/85 at Trollingwood-Hawfields Rd. Interchange Improvements	I-40/I-85	Trollingwood-Hawfields Road		\$12,400,000
U-6183	Intersection	SR 1928 (Wilkins Rd) and SR 1927 (Bason Rd). Upgrade K-Type Intersection	SR 1928 (Wilkins Rd)			\$2,700,000
U-6184	Intersection	NC 54 at South O'Neal Street, intersection improvements	NC 54	SR 1445 (South O'Neal St)		\$1,900,000

2035 Horizon Fiscally Constrained List Roadway Projects-Continued 2

MTP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
U-6214	Intersection	E. Haggard W. Webb at University Drive Improve Intersection	E. Haggard	W. Webb at University Drive		\$13,100,000
Int-01	New Interchange	Tucker Street Interchange	I-85/I-40	Tucker St		16,200,000
Int-02	New Interchange	Mattress Factory Road Interchange-new interchange	I-85/I-40	Mattress Factory Rd		16,200,000
U-6182	New Traffic Signal/Turn Lanes	NC 87 Flora Avenue New Traffic Signal/Turn Lanes	NC 87	Flora Avenue		\$1,300,000
Hwy-151	Roadway Modernization	NC 54 Access Management	NC 54	W Elm St	Woody Dr	16,089,940

2035 Horizon Fiscally Constrained List Roadway Projects-Continued 3

MTP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
Hwy-29B	Roadway Modernization	Huffman Mill Rd operational improvements, access management, signal timing and complete streets elements from US 70 to Forestdale Rd	Huffman Mill Rd	US 70	Forestdale Rd	\$5,257,315
Hwy-29A	Roadway Widening	Huffman Mill Rd widening and intersection improvements, complete streets elements from Forestdale Rd to I-85	Huffman Mill Rd	Forestdale Rd.	I-85	\$6,639,595
Hwy-169	Intersection	Lebanon Road Intersection Improvements, Mill Creek Road to Efland-Cedar Grove Road	Lebanon Road	Mill Creek Road	Stagecoach Rd	\$4,428,000
Hwy-170	Intersection	Westbrooke Avenue Intersection Improvements, University Drive to Ellen Drive	Westbrooke Avenue	University Drive	Ellen Drive	4,796,110
Hwy-178	Intersection	N. Main Street/US 70 Intersection Improvements	N. Main Street at US 70 Intersection			\$4,428,000

2035 Horizon Fiscally Constrained List Roadway Projects-Continued 4

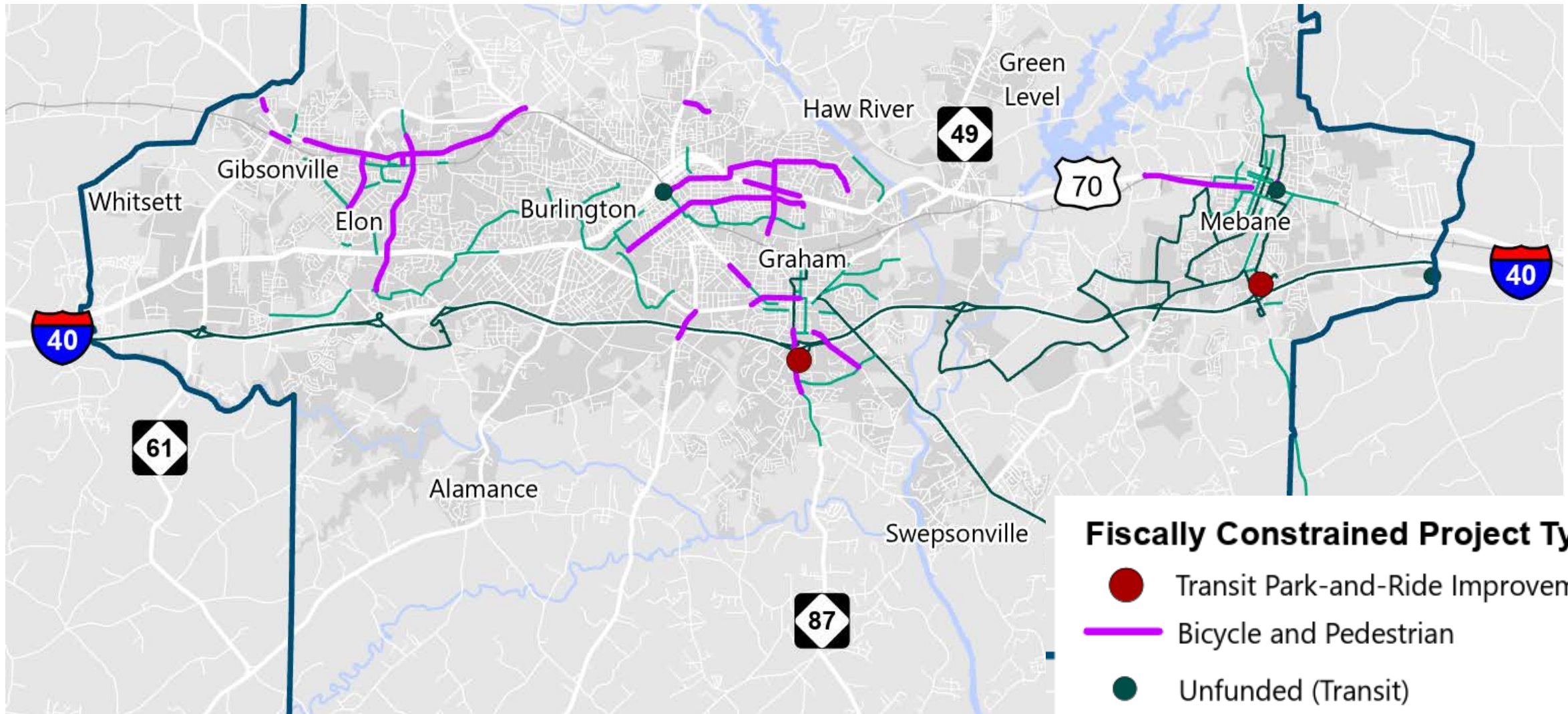
MTP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
Hwy-180	Intersection	US 70 Intersection Improvements at Brightwood Church Road and Penn Lo Drive	US 70	Brightwood Church Road	Penn Lo Drive	\$6,142,000
Hwy-181	Intersection	US 70 / Woodlawn Road/Moore Street Intersection-address safety, alignment, ped safety	US 70	Woodlawn Road/Moore Street		\$6,142,000
Hwy-182	Intersection	US 70 / Ashely Wood Drive Intersection Improvement	US 70	US 70 / Ashely Wood Drive Intersection		\$6,142,000
Hwy-183	Intersection	Huffine Street North and Burlington Avenue Intersection Improvement	Huffine Street / Burlington Avenue Intersection			\$4,428,000
Hwy-184	Intersection	Huffine Street South and Alamance St Intersection Improvement	Huffine Street / Alamance Street Intersection			\$4,428,000

2035 Horizon Fiscally Constrained List Roadway Projects-Continued 5

MTP ID	Project Type	Project Name	Facility	From	To	Estimated Cost
Hwy-185	Intersection	Railroad Avenue	Alamance St./E. Railroad Ave./ Springwood Ave./Burke St.			\$4,428,000
Hwy-04	Roadway Modernization	University Ave Operational Improvements, signal timing and complete streets	University Dr	I-85/I-40	US 70	\$15,011,399
Hwy-157	Roadway Modernization	NC 49 (Maple Ave)	NC 49	Henry Road	I-85/I- 40	\$5,440,000
Hwy-159	Roadway New Location	NC 49 (Maple Ave) roadway realignment with complete streets and operations improvements	NC 49	I-85/I-40 Westbound ramps	NC 54 (Harde n Rd)	\$16,840,000
Hwy-202	Roadway Widening & interchange improvements	Jimmie Kerr Corridor Widening from I-40/I- 85 to US 70, to include interchange improvements	Jimmie Kerr	I-40/I-85	US 70	\$45,093,759

2045 Horizon Roadway projects— additional projects in the draft projects list table

Transit, Pedestrian and Bicycle Projects



2035 Horizon Transit Expansion Projects

Project Id	Project Name	Estimated Cost
Tran-001B	PART Route 4-replacement express bus capital purchase	\$500,000
Tran-003	Mebane Park-and-Ride New Site or Expansion	\$2,000,000

2045 Horizon Transit Expansion Projects

Tran-004	Graham Park-and-Ride Lot Expansion	\$2,000,000
Tran-009	ACTA Additional Rural Areas Service-Expansion Vehicles	\$120,000

BGMPO Transit Routes Evaluated for Implementation (not part of fiscally-constrained plan)

Route Name	Estimated Annual Boardings	Est. Daily Tot. Boardings	Est. Annual Operating Cost	Estimated Capital Cost-Vehicles	Local Agency Responsible for Local Match	Overall Feasibility by 2045
PART Alamance Burlington Express (1 Hr. Peak) 4	87,192	346	978,062	630,000	Alamance County, Orange County, Guilford County	Low
ACC to Mebane Connector Option 1 ■ ●	20,412	81	48,876	160,000	City of Mebane, Alamance County	Medium
Mebane Circulator Option 1,5 ■	19,152	76	48,863	160,000	City of Mebane	Medium
Graham Circulator ■ ●	19,152	76	48,878	160,000	City of Graham	Medium-Low
Hwy 54 Graham-Carrboro Connector Route ■ ●	12,096	48	489,012	315,000	City of Graham, Town of Carrboro, others?	Low
Route ODX peak period service frequency expansion (one bus every 30 minutes instead of one bus every hour) in FY 21 10	Not evaluated for this plan	Not evaluated for this plan	169,129 additional (523,332 total)	160,000	Orange County, City of Mebane	Medium-Low
Total	158,004	627	1,782,820	1,585,000		

Pedestrian and Bicycle Projects-in the STIP

Horizon Year	MTP 2045 Transit, Bicycle and Pedestrian Projects Draft List--Project Name	Project Costs (Estimate, 2020USD)
2025	2025 Horizon	\$ 4,256,480
R-5787	Division 7 ADA Upgrades	\$ 3,089,000
EB-5879	Burlington, US 70 (N. Church St) from Graham-Hopedale Road to Sellars Mill Road, Sidewalks	\$ 118,800
EB-5882	Burlington, Graham-Hopedale Rd from W. Hanover Road to N. Mebane Street, Sidewalks	\$ 147,960
EB-5884	Graham, NC 87 (S. Main St) from Ivey Road to East Gilbreath Street, Sidewalks	\$ 582,120
EB-5885	Burlington, US 70 from Beaumont Avenue to Graham-Hopedale Road, S	\$ 129,600
EB-5887	Graham, NC 49/NC 54 (Harden St) from W. Pine Street to N. Marshall Street, Sidewalks	\$ 189,000
2035	2035 Horizon	\$ 5,900,734
EB-5988	Lee Ave fr West Lebanon Ave to SR 1454 (W Haggard Ave) in Elon, side	\$ 265,680

Pedestrian and Bicycle Projects-in the MTP

MTP 2045 Assigned ID	Project Type	Project Name	Project Municipality if Applicable	Facility	From	To	Miles	Estimated Cost
2035 Horizon Bicycle and Pedestrian Projects								
Bike-007	Separate Bike Facility	Burlington-Mebane Street Bikeway	Burlington	Mebane Street	Cummings HS & Broadview MS	City Park	3.05	\$ 225,054
Ped-015	Sidewalk	Graham-Main Street Sidewalks from Rogers to Robin	Graham	Main Street Sidewalk (Graham)	Rogers	Robin	0.94	\$ 1,224,298
Bike-069	Separate Bike Facility	Burlington Transit Station to Train Station Bicycle and Pedestrian Link. Implement a multi-use path from Front St to Market St, including Signalized Ped Crossing of E Webb Ave and secure bike parking at Train Station and Transit Hub	Burlington	Worth St and N Main St improvements	Front St	Market St	0.14	1,600,000.00
Bike-030	Sidepath	Mebane-Holt Street Shared Use Path	Mebane	Holt Street	Dodson Road	S. First Street	1.69	\$ 2,494,614

2035 and 2045 Bicycle and Pedestrian Projects Total:

19,609,946

2045 Horizon Bicycle and Pedestrian Projects

Ped-001	Sidewalk	Burlington, Graham-Hopedale Rd Sidewalk	Burlington				0.5	\$	651,222
Bike-015	Bike Lane	Elon-Williamson Avenue and St. Marks Church Road Bike Lane (Elon)	Elon	Williamson Ave	Pheonix Drive	Rural Retreat Road	2.57	\$	5,860,000
Bike-003	Bike Facility	Burlington Town and Country bike path -- feasibility study to determine the preferred project type and cost estimate	Burlington		Webb Ave	Town and Country Na	3.33	\$	132,438
Ped-026	Sidewalk	Graham, Gilbreath from Ivey to Ray-Sidewalk Improvements	Graham	Gilbreath Rd	Ivey	Ray	0.90	\$	1,172,200
Ped-067	Sidewalk	Graham East Elm Street & NC 87 Sidewalk Bundle	Graham				0.41	\$	534,002
Bike-011	Sidepath	Elon University Drive Sidepath (close gaps)	Elon				0.93	\$	1,372,776
Bike-016	Bike Lane	Elon Haggard Avenue Bike Lane	Elon				2.72	\$	1,435,000
Bike-030	Sidepath	Mebane Holt Street Sidepath	Mebane				1.69	\$	2,494,614
Ped-043	Sidewalk	Mebane: N. Fifth Street Sidewalk,	Mebane				0.12	\$	156,294
Bike-010	Bike Lane	Gibsonville Burlington Avenue Bike Lane	Gibsonville				0.95	\$	257,434
Bike-066	Sidepath	Burlington-NC 49 (Maple Avenue) Sidepath	Burlington	NC 49 (Maple Avenue)	Handford Road	NC 54 Chapel Hill Road	0.5	\$	3,380,000
Ped-060	Sidewalk	Sharpe Road Sidewalk	Sharpe	Sharpe Road	Ross Street	Rauhut Street	0.41	\$	390,734
Ped-026	Sidewalk	Gilbreath from Ivey to Ray-Sidewalk Improvements	Gilbreath	Gilbreath Rd	Ivey	Ray	0.9	\$	1,172,200
Ped-015	Sidewalk	Main Street from Rogers to Robin	Main	Main Street	Rogers	Robin	0.94	\$	1,224,298
Ped-067	Sidewalk	East Elm Street & NC 87 Bundled Sidewalk	Burlington	East Elm Street & NC 87 Bundled Sidewalk	Albright to Parker	West Harden to Williamson	0.41	\$	534,002
Ped-065	Sidewalk	Burlington-NC 87 (Webb Avenue) Sidewalk	Burlington	NC 87 (Webb Avenue)	Burlington City Limits	Williamson Street	0.43	\$	247,465

How can you provide input?

- Review the maps and list of projects
- Provide your comments to MPO staff or VHB study team staff
- Next public meeting **scheduled for Tuesday, May 12th 5 PM in virtual format**
- Check the website for updates www.bgmpogettingthere2045.com/
- Help share the info



Any additional questions or comments?

Wannetta Mallette

BGMPO Administrator

(336) 513-5418

wmallette@burlingtonnc.gov

www.bgmpogettingthere2045.com/

Don Bryson

VHB Consultant team

919.334.5615

dbryson@vhb.com

Lyuba Zuyeva

VHB Consultant team

(704) 960-8991

lzuyeva@vhb.com

