

DURHAM • CHAPEL HILL • CARRBORO

DCHC

METROPOLITAN PLANNING ORGANIZATION

PLANNING TOMORROW'S TRANSPORTATION

2024 Congestion Management Process (CMP) Reports

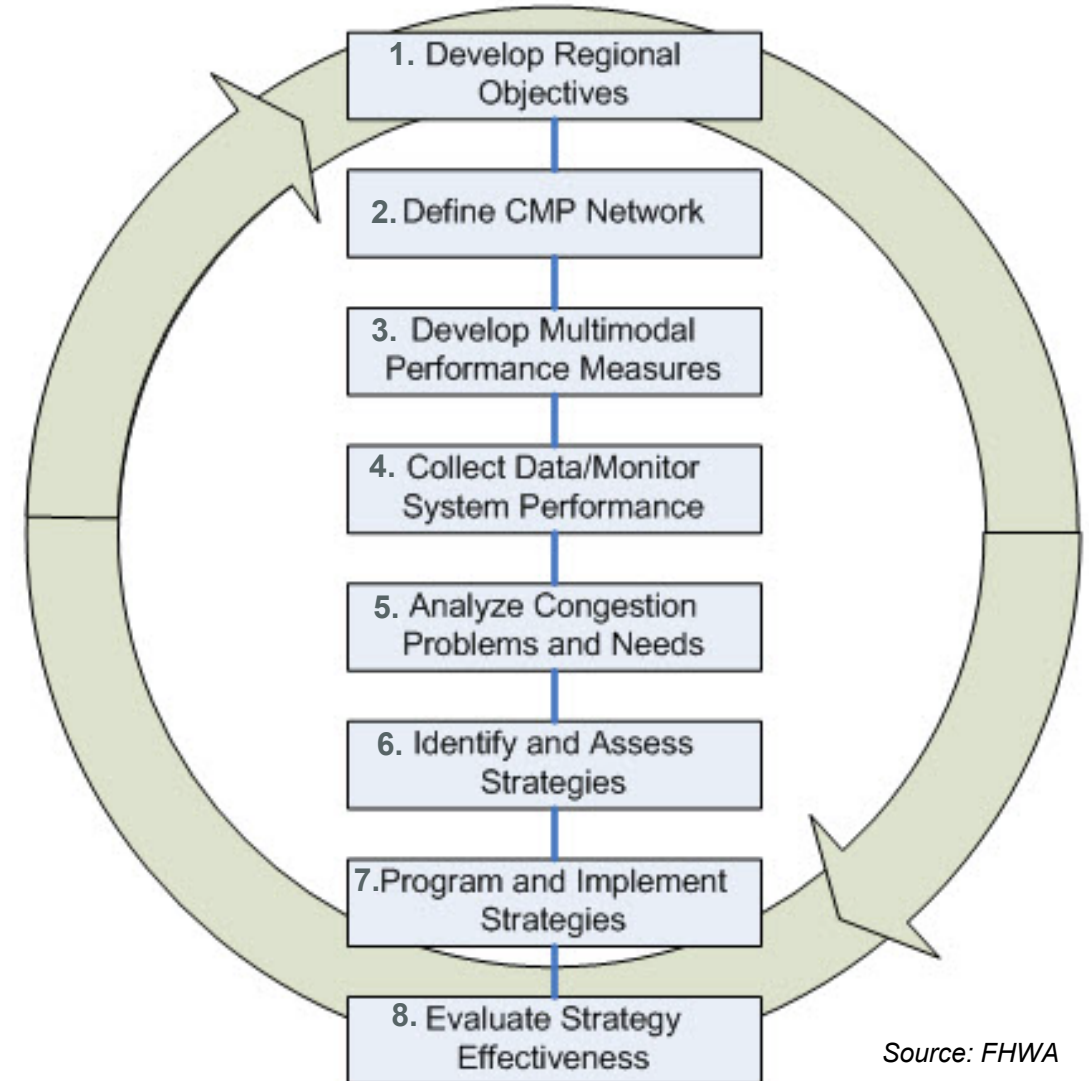
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Congestion Management Process (CMP)

- Mobility Report Card (MRC) provides a snapshot of existing conditions and trends on the transportation system through Actions 2-5.



Source: FHWA

Key Products of CMP



MOBILITY REPORT
CARD (MRC)
REPORT



ONLINE
DASHBOARD



CMP REPORT
- 2024 STATE OF THE SYSTEMS
REPORT, INCLUDING AN
EXECUTIVE SUMMARY AND
RECOMMENDATIONS

CMP Corridors Needs Assessment and Ranking

❖ Safety priority score based on severe crash rate

❖ Traffic priority score based on LOS and LOTTR

❖ Multimodal/Complete Streets priority score based on transit ridership and ped-bike activities

Corridor ID	Corridor Name	From	To	Length (miles)	Safety Score	Traffic Score	Multimodal/Complete Streets Score	Overall Score (weighted) (see Note)	Overall Ranking
1	I-40 West	US 15-501 (Exit 270)	MPO Boundary in Mebane (Exit 157)	17.3	4	3	3	3	LOW-MEDIUM
2	I-40 East	US 15-501 (Exit 270)	MPO Boundary near RDU Airport (Exit 283)	12.8	4	1	1	2	HIGH-MEDIUM
3	I-85 South	NC 147 near Durham-Orange County Line (Exit 172)	I-40 (Exit 163)	9.2	3	3	4	3	LOW-MEDIUM
4	I-85 North	NC 147 near Durham-Orange County Line (Exit 172)	MPO Boundary at Durham-Granville County Line	12.7	3	4	4	3	LOW-MEDIUM
5	US 15	US 15-501 Business (Exit 105)	I-85 (Exit 108)	4.8	3	3	1	2	HIGH-MEDIUM
6	US 15-501 Bus	US 15-501	I-85 (Exit 177)	6.9	1	3	2	2	HIGH-MEDIUM
7	US 15-501 North	US 15-501 Business (Exit 105)	NC 86 in Chapel Hill	7.7	1	2	2	1	HIGH
8	US 15-501 South	NC 54 in Chapel Hill	MPO Boundary in Chatham County	7.6	4	3	3	3	LOW-MEDIUM
9	US 70 West	I-85 (Exit 170)	MPO Boundary in Mebane	13.1	2	4	4	3	LOW-MEDIUM
10	US 70 East	I-885 (Exit 288)	MPO Boundary at Durham-Wake County Line	4.3	2	2	4	3	LOW-MEDIUM

CMP Corridors Needs Assessment and Ranking (2)

Corridor ID	Corridor Name	From	To	Length (miles)	Safety Score	Traffic Score	Multimodal/ Complete Streets Score	Overall Score (weighted) (see Note)	Overall Ranking
11	I-885	I-85 (Exit 178)	MPO Boundary at Durham-Wake County Line	11.3	4	3	2	3	LOW-MEDIUM
12	US 501 North	I-85 (Exit 176)	Bywood Dr in North Durham	6.2	1	3	3	2	HIGH-MEDIUM
13	NC 54 East	US 15-501 in Chapel Hill	MPO Boundary at Durham-Wake County Line	14.5	2	2	1	2	HIGH-MEDIUM
14	NC 54 West	NC 86 in Chapel Hill	MPO Boundary in Carrboro	7.5	4	4	2	3	LOW-MEDIUM
15	NC 55	NC 147 (Exit 2)	MPO Boundary at Durham-Wake County Line	8.2	1	3	3	2	HIGH-MEDIUM
16	NC 86 North	I-40 (Exit 266)	MPO Boundary in North Hillsborough	12.7	3	3	4	3	LOW-MEDIUM
17	NC 86 South	I-40 (Exit 266)	US 15-501 / NC 54 in Chapel Hill	6.2	2	3	1	2	HIGH-MEDIUM
18	NC 98	North Roxboro St in Downtown Durham	MPO Boundary at Durham-Wake County Line	10.9	1	4	2	2	HIGH-MEDIUM
19	NC 147	I-885	I-85	7.8	3	2	3	3	LOW-MEDIUM
20	Duke St-Gregson St	NC 147 in Downtown Durham	I-85 (Exit 176)	1.9	1	4	2	2	HIGH-MEDIUM
21	NC 751	NC 54 in Durham	MPO Boundary in Chatham County	9.4	4	3	4	4	LOW
22	S Miami Blvd	NC 54 in Durham	US 70	4.8	2	3	3	2	HIGH-MEDIUM

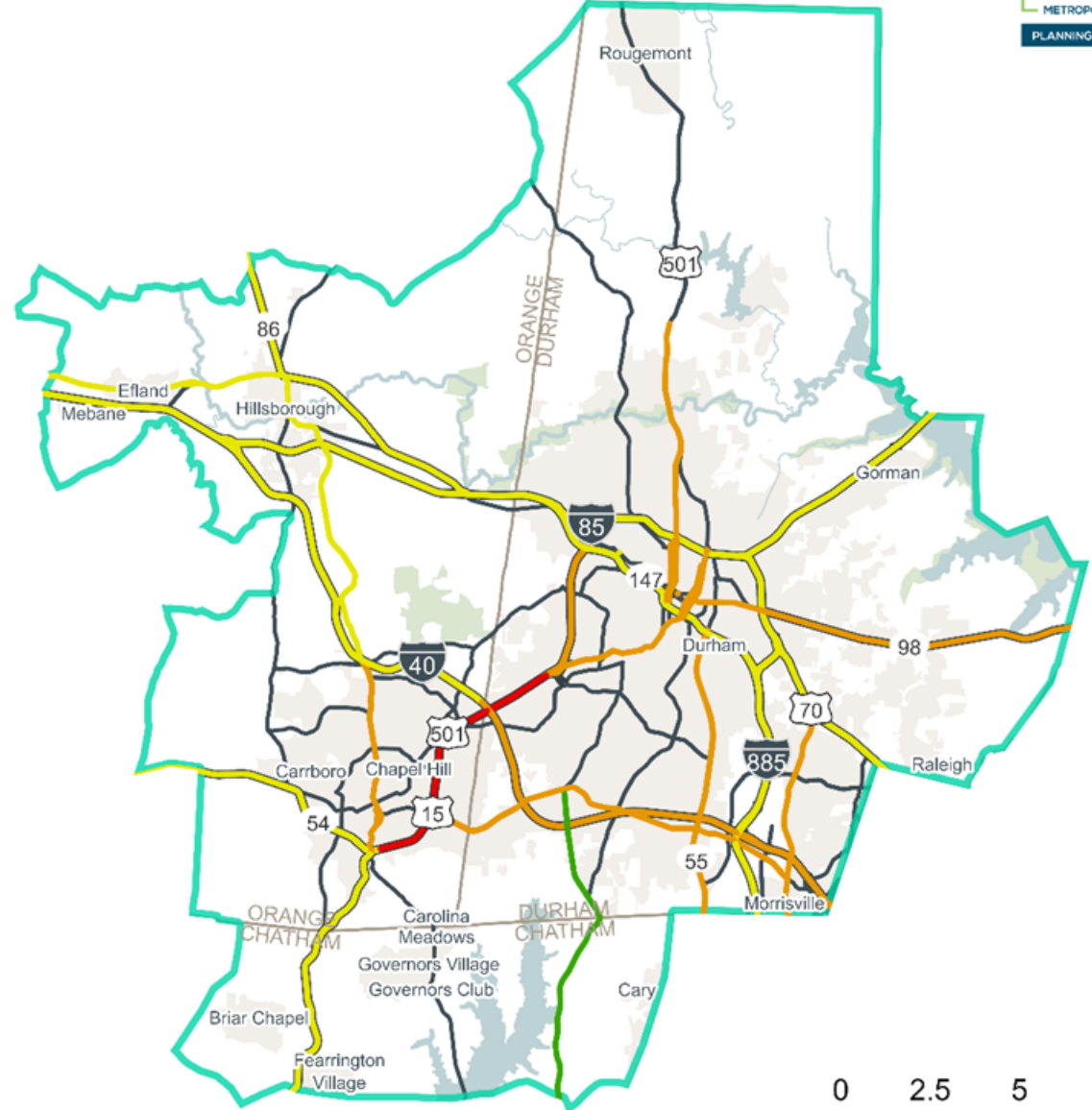
Corridors Ranking Map

CMP Priority Corridors 2023



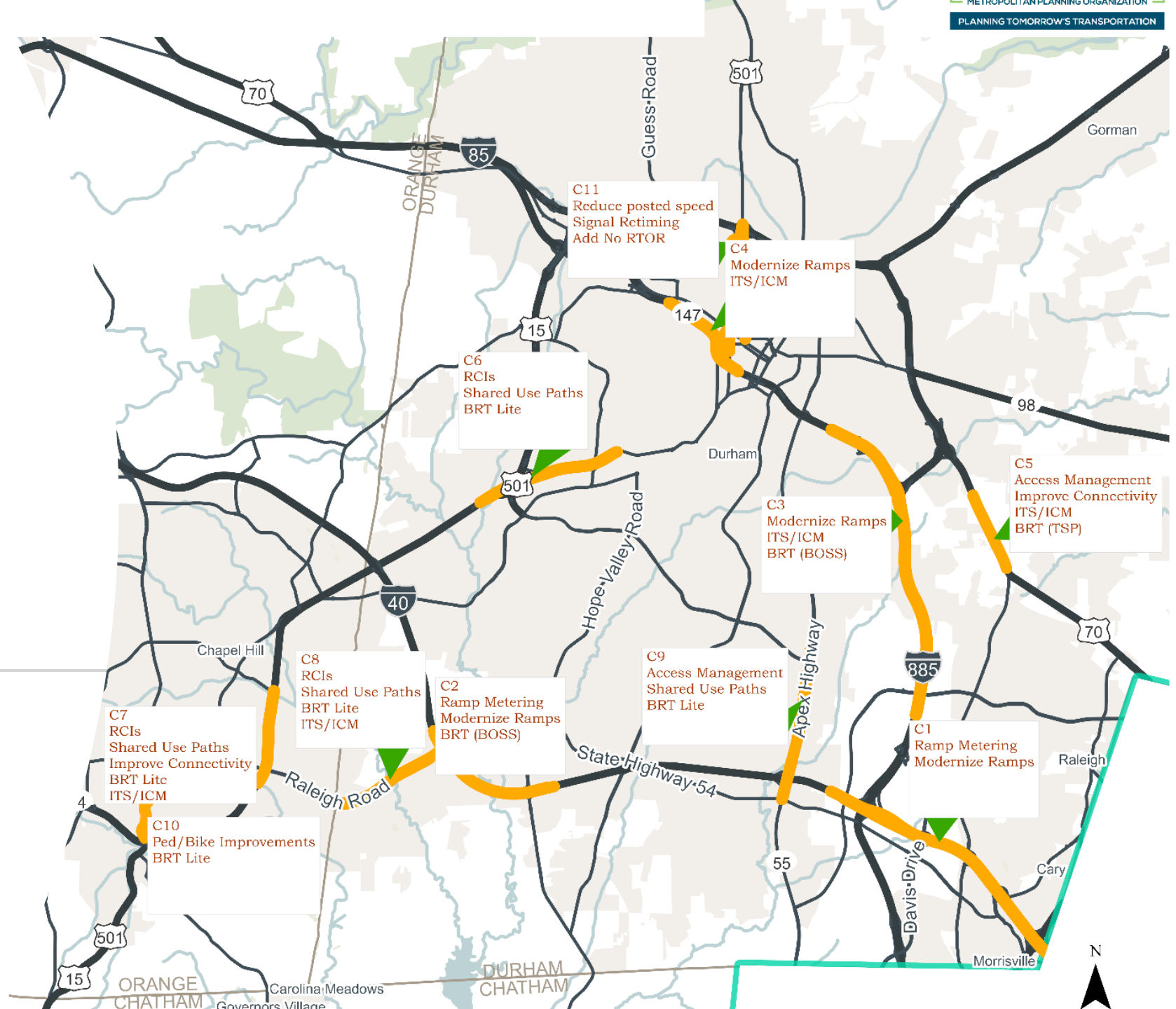
Corridor Priority Rank (based on
Safety, Traffic & Multimodal Scores)

- Low
- Low - Medium
- High - Medium
- High Priority



Data Source: OpenStreetMap Network 2023, BMG Analysis

Corridors Mitigation Improvement Strategies



Recommended Mitigation & Improvement Strategies

Roadway	Segment	Distance (in miles)	Current Cross- section	Highest Speed Limit	Highest 2019/2021 AADT	Potential Mitigation Strategies
I-40	I-885 to Wake County Line	3.71	8 to 10 Lanes	65 mph	195,000	- Ramp metering - Modernize ramps and extend acceleration/ deceleration lanes at interchanges
I-40	NC 751 to NC 54	3.33	6 to 7 Lanes	65 mph	128,000	- Ramp metering - Modernize ramps and extend acceleration/ deceleration lanes at interchanges - Bus rapid transit
I-885/NC 147	T.W. Alexander Dr to Briggs Ave	4.46	4 to 5 Lanes	65 mph	76,000	- Modernize ramps and extend acceleration/ deceleration lanes at interchanges - Additional ITS/integrated corridor management (where applicable) - Bus rapid transit (Bus on shoulder for GoTriangle Routes)
NC 147	Duke St to Swift Ave	1.1	4 to 5 Lanes	55 mph	66,000	- Modernize ramps and extend acceleration/ deceleration lanes at interchanges - Additional ITS/ integrated corridor management (where applicable)

Recommended Mitigation & Improvement Strategies-2

Roadway	Segment	Distance (in miles)	Current Cross- section	Highest Speed Limit	Highest 2019/2021 AADT	Potential Mitigation Strategies
US 70	Miami Blvd to Pleasant Dr	1.3	4 to 5 Lanes	45 mph	44,000	• Access management/ redirect left-turning movements at driveways and intersections
						• ITS/ integrated corridor management (where applicable)
						• Bus rapid transit (Note: there are no current transit routes along US 70, but transit signal priority
						• Improve parallel roads and street connections
US 15/501 Business	US 15/501 to NC 751	1.44	4 to 6 Lanes	45 mph	18,000	• Add restricted crossing intersections (RCIs)
						• Add sidewalks/paths and crosswalks where missing
						• Transit signal priority and queue jumps along EB/WB US 15/501 Business approaches at Westgate
US 15/501	NC 54 to Estes Dr	1.25	4 to 5 Lanes	45 mph	45,000	• Add restricted crossing intersections (RCIs) / redirect left-turning movements
						• Fill in sidewalks/paths and provide pedestrian/bicycle connectivity
						• Transit signal priority and queue jumps on NB/SB US 15/501 approaches at Estes Dr ("BRT-lite")
						• ITS/ integrated corridor management (where applicable)
						• Improve parallel road/grid street connection

Recommended Mitigation & Improvement Strategies-3

Roadway	Segment	Distance (in miles)	Current Cross- section	Highest Speed Limit	Highest 2019/2021 AADT	Potential Mitigation Strategies
NC 54	I-40 to Barbee Chapel Rd	1.74	4 to 5 Lanes	45 mph	44,000	• Add restricted crossing intersections (RCIs) / redirect left-turning movements
						• Extend shared-use path
						• Transit signal priority and queue jumps on EB/WB NC 54 at Farrington Rd, Huntingridge Rd, and
						• ITS/ integrated corridor management (where applicable)
NC 55	NC 54 to MLK Jr. Pkwy	2.02	4 to 5 Lanes	50 mph	37,000	• Access management/ redirect left-turning movements at driveways and intersections
						• Add sidewalks/paths and crosswalks where missing
						• Transit signal priority and queue jumps on NB/SB NC 55 approaches at NC 54, I-40, Meridian
NC 86	Downtown Chapel Hill	1.5	2 to 4 Lanes	35 mph	14,000	• Multimodal safety improvements
						• Transit signal priority and queue jumps on NB/SB NC 86 approaches at all signalized
Duke St- Gregson St One way Pair	Downtown Durham	1.6	2 Lanes (each direction)	35 mph	11,000 (each direction)	• Reduce posted speed to 25 mph
						• Time signal progression speed to the posted speed
						• Add "no right-turn on red" restrictions
						• Conduct a corridor traffic study (prior to any conversion from one-way pair to two-way operations)

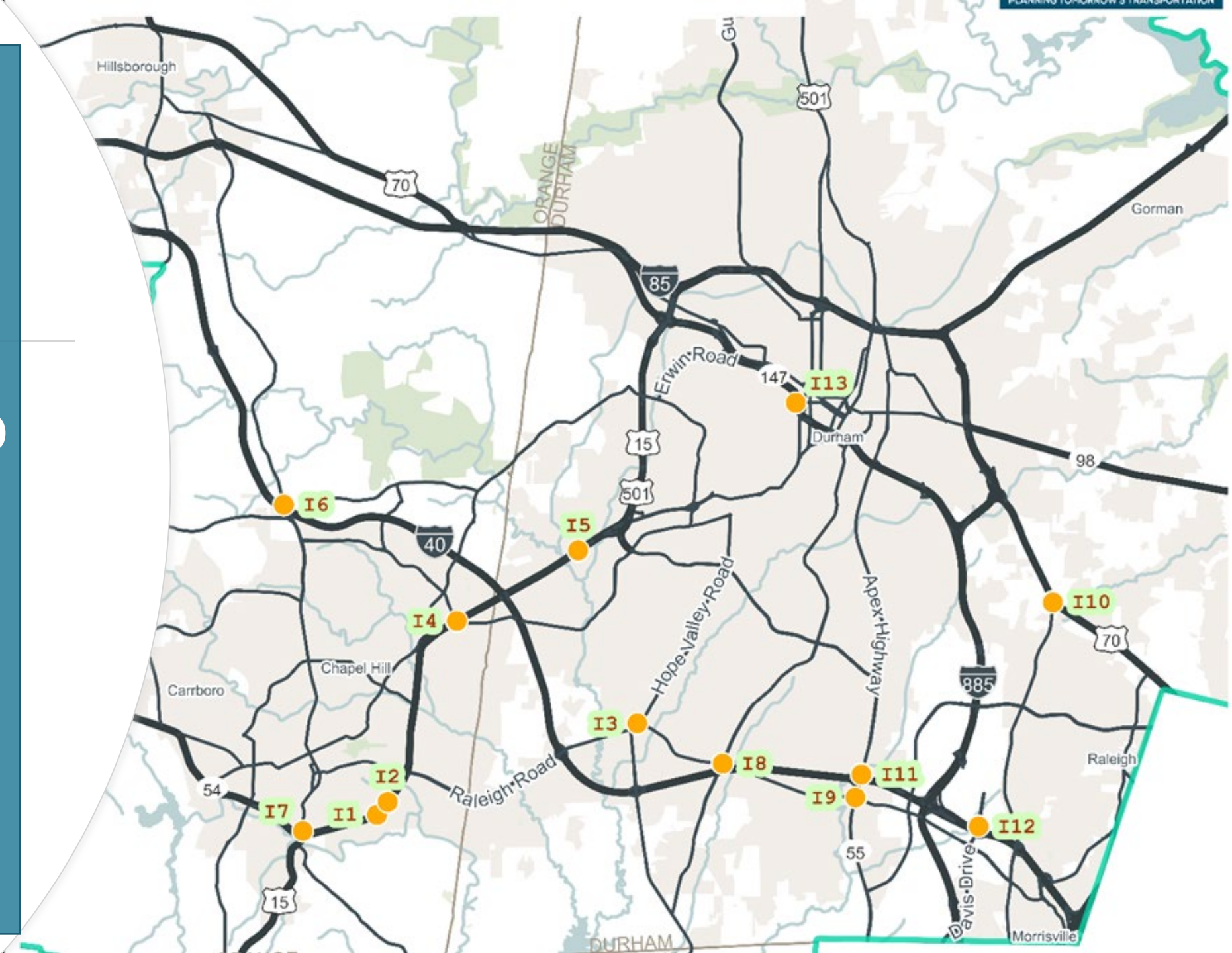
Recommended Intersection Improvements

Intersections with current or projected capacity and safety deficiencies	Traffic/Safety Mitigations	Multimodal Improvements
Chapel Hill - 5 intersections Durham – 8 intersections	• Signal timing changes • Lane configuration changes • Addition of turn lanes • Posted speed reductions • Design change to RCI • Design change to Quadrant roadway • Design change to roundabout	• Traffic signal heads, signs, and timing changes for bicycle, pedestrian & transit priority • Safer crosswalks, curb extensions, refuge islands, etc. for pedestrians • ADA compliant ramps

Recommended Intersection Improvements

1. US 15/US 501/NC 54 at Manning Dr, Chapel Hill
2. US 15/US 501/NC 54 at Carmichael St/Old Mason Farm Rd, Chapel Hill
3. NC 751 (Hope Valley Rd) at Garrett Rd, Durham
4. US 15/501 at Old Durham Rd/Sage Rd, Chapel Hill
5. US 15/501 at Garrett Rd, Durham
6. I-40 Westbound Ramps at NC 86, Chapel Hill
7. NC 54 Westbound Ramps at S Columbia St., Chapel Hill
8. NC 54 at Fayetteville Rd, Durham
9. NC 54 at NC 55, Durham
10. US 70 at Miami Blvd/Mineral Springs Rd, Durham
11. I-40 Westbound Ramps at NC 55, Durham
12. I-40 Westbound Ramps at Davis Dr, Durham
13. NC 147 Southbound Ramps at Chapel Hill St, Durham

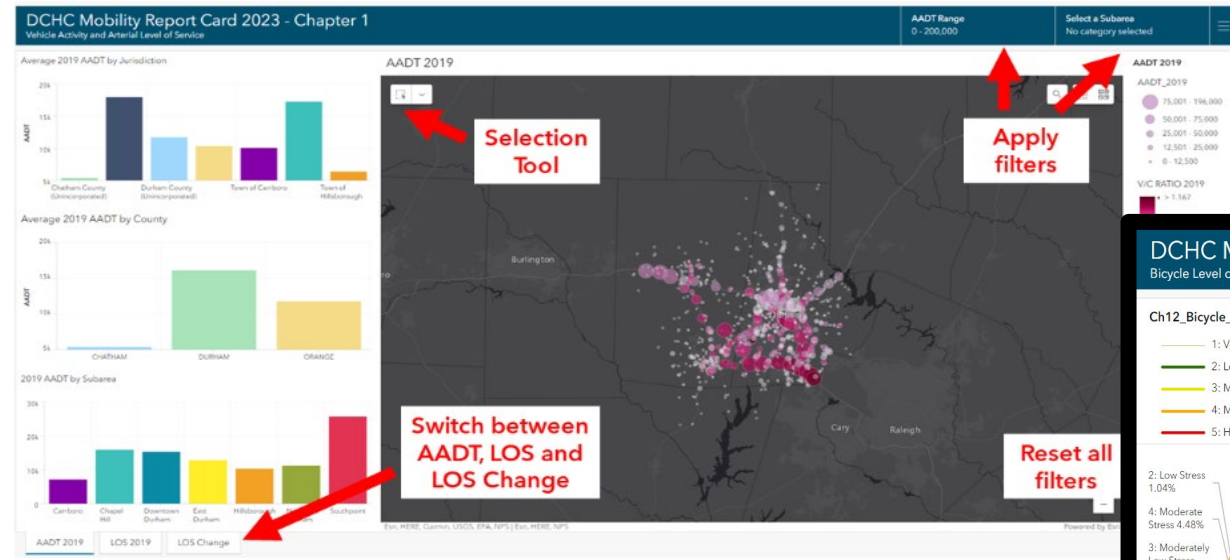
Intersection Mitigation/ Improvement Strategies



Online Dashboards

Chapter 1: Vehicle Activity and Arterial Level of Service

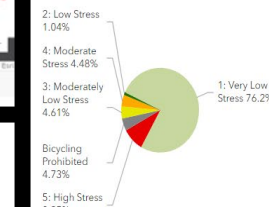
This dashboard displays and summarizes vehicle activity and arterial level of service (LOS) data based on user-applied filters. The indicators and graphics automatically update as the selection and filters are changed. Instructions are included below



DCHC Mobility Report Card 2023 - Chapter 12

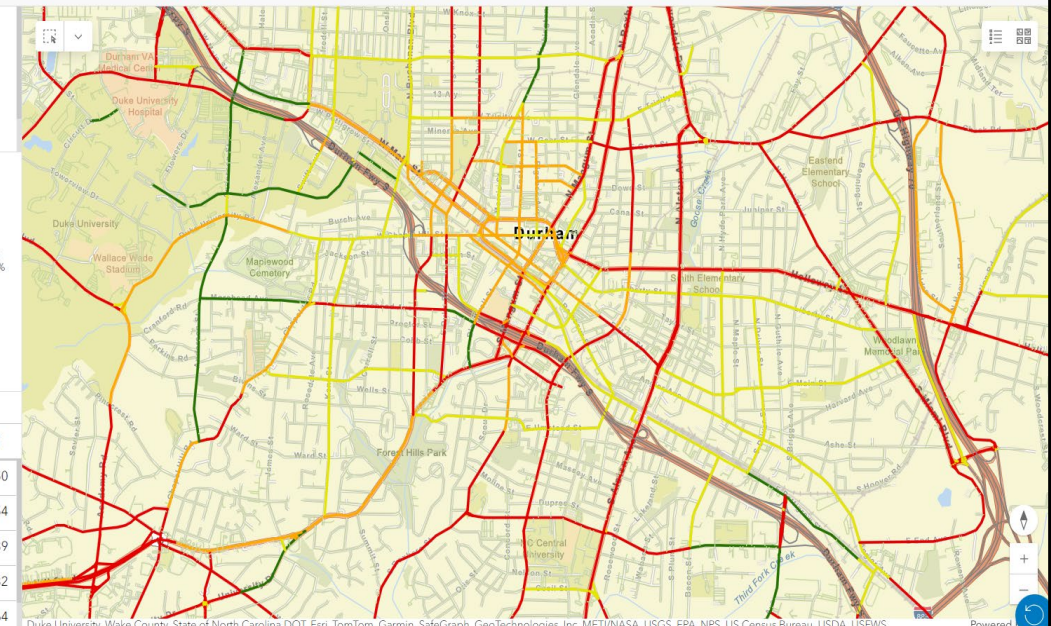
Bicycle Level of Traffic Stress (LTS)

Ch12_Bicycle_LTS_2023



Length by LTS Category

Bike LTS	Length (in Miles)
1: Very Low Stress	3,950
2: Low Stress	54
3: Moderately Lo...	239
4: Moderate Stress	232
5: High Stress	464



Landing Pages to Dashboards

Chapter 1: Vehicle Activity and Arterial Level of Service

<https://baselinemobility.maps.arcgis.com/apps/dashboards/4fda92a5739044a991b9996a6efe6ad8>

Chapter 2: Intersection Peak Hour Level of Service

<https://baselinemobility.maps.arcgis.com/apps/dashboards/78246cd301ce4ec28a3896054590cfe3>

Chapter 3: Vehicle Travel Time

<https://baselinemobility.maps.arcgis.com/apps/dashboards/293191b80988433e8e956e9a19f141e7>

Chapter 4: Vehicle Safety

<https://baselinemobility.maps.arcgis.com/apps/dashboards/3a2f8a2813b3495dba3a91b63aed164c>

Chapter 5: Pedestrian Facilities, and Chapter 7: Bicycle Facilities

<https://baselinemobility.maps.arcgis.com/apps/dashboards/a67eeac6cc5245b6b011594792850378>

Chapter 6: Pedestrian Activity

<https://baselinemobility.maps.arcgis.com/apps/dashboards/81028d0a01d2443fbfc0b4c30e8eeab8>

Chapter 8: Bicycle Activity

<https://baselinemobility.maps.arcgis.com/apps/dashboards/3e659a7d58ae40e886cf45659af9e6a0>

Chapter 9: Pedestrian and Bicyclist Safety

<https://baselinemobility.maps.arcgis.com/apps/dashboards/f8ef53e7782c47979a6c0fc6b0f11111>

Chapter 10: Transit Service

<https://baselinemobility.maps.arcgis.com/apps/dashboards/6890d74492ea4eee9084d20d8f991675>

Chapter 11: Transit Ridership

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Chapter 12: Bicycle Level of Traffic Stress (LTS)

<https://baselinemobility.maps.arcgis.com/apps/dashboards/26d00180521f4317991d58071ef0b9c3>

Action and Remaining Schedule

- ❑ TC Action: Recommend that the MPO Board release the 2024 CMP and MRC reports for a 21-day public comment period
- ❑ The remaining schedule includes:
 - ❖ August 2024: The Board releases the full 2024 CMP and MRC reports for public comment
 - ❖ October 2024: TC Action: Recommend that the Board adopt the full 2024 CMP and MRC by resolution
 - ❖ October 2024: The Board adopts the 2024 CMP and MRC by resolution

Questions?

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