DRAFT 2045 MTP Goals, Objectives, and Performance Measures

Goals	Objectives	Performance Measures	2016 Baseline PM	PM Data Source/ Notes	Responsible Party (for defining PM)
I. Protect Environment and Minimize Climate Change	A. Reduce mobile source emissions, GHG, and energy consumption B. Reduce the negative impacts on the natural and cultural environment	**A—** 1. Transportation GHG, ozone, CO, and particulate matter emissions per capita 2. Mobile energy consumption per capita **B—** 1. Planned investment in existing network vs. new network 2. Proportion of miles of investment in new corridors by mode	**A—** 1. 2. **B—** New/Existing 1. DCHC: 19% / 81% CAMPO: 21% / 79% 2. DCHC Highway 18% / 82% CAMPO Highway 18% / 82%	**A—** A1 and A2 from TRM. Need MOVES? Need DOT or DENR assistance? Need assumptions, e.g., avg miles per gallon, for energy calculation? **B—** B1 – 2040 MTP Highway Table B2 – 2040 MTP Highway Table for highway, source for transit, bike and ped still TBD.	**A—** Wei **B—** Andy
II. Connect People	A. Connect people to jobs, education and other important destinations using all modes	**A—** 1. Percentage of work and non-work trips by auto less than 30 minutes 2. Percentage of work and non-work trips by transit less than 45 minutes 3. Average trip time (in minutes) for each mode 4. Miles of sidewalks and bike lanes 5. Ratio of miles of sidewalk, bike lanes and multi use paths to population	**A—** 1. 2. 3. 4. 5.	**A—** A1 and A2 – Use TRM? ACS or other source. What are the natural breaks for TRM? Andy remembers a value well below 30 and 45 minutes for the 2040 MTP process. A3 – Can't break out non-motorized in TRM? So, where get data? A4 and A5 – In DCHC Mobility Report Card. CAMPO able to collect?	**A—** Wei
III. Promote Multimodal and Affordable Travel Choices	A. Enhance transit services, amenities and facilities B. Improve bicycle and pedestrian facilities C. Increase utilization of affordable non-auto travel modes	**A—** 1. Local per capita expenditures on transit operations 2. Per capita transit service hours 3. Total transit boardings per capita 4. Proportion of bus stops that meet their defined facility threshold 5. Percent of boardings at stops with shelters, as compared to all boardings 6. Number of miles of transit service facilities implemented in high-frequency bus corridors, hi transit infrastructure stations, and lo transit infrastructure stations (as determined by	**A—** 1. 2. 0.93 3. 4. 5. 6. 7. 8. 9.	**A—** A2— National Transit Database: (Raleigh + Durham Total Vehicle Revenue Hours)/(Raleigh + Durham UZA Population) A4 – The facility thresholds to be determined separately, dependent on mode, ridership, corridor, etc. A9 – Need to define ADA compliant	**A—** A1-3 - Geoff A4 – Geoff, Paul

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		CommunityViz), and along BOSS corridors. 7. Percent of ridership in high-frequency bus corridors, hi transit infrastructure stations, and lo transit infrastructure stations (as determined by CommunityViz), and along BOSS corridors 8. Proportion of bus stops with sidewalks or a concrete pad. 9. Proportion of bus stops that are ADA compliant **B—** 1. Local per capita expenditures on bicycle and pedestrian facilities 2. Proportion of jurisdictions that have an ordinance requiring developers to build or pay in lieu for sidewalks. 3. Sidewalk-to-roadway ratio: number of sidewalk feet for every hundred feet of roadway. (If greater than 100 there are sidewalks on both sides of road). 4. Percent of city/area that is within 2 miles of a low-stress bicycle route. 5. Proportion of audible pedestrian traffic signals to all pedestrian traffic signals **C—** 1. Percentage of transit, bicycle and pedestrian mode shares (overall) 2. Percentage of transit, bicycle and pedestrian mode shares in transit corridors 3. Percentage of transit, bicycle and pedestrian mode shares for work commute 4. Percentage of transit, bicycle, and pedestrian mode shares in activity centers/TAZs	**B—** 1. 2. 45% (14/31 jurisdictions) 3. 4. 5. **C—** 1. 2. 3. 4.	**B—** B1 – Do we have this data? How inaccurate since developers make site improvements? B2 – Paul Black's ordinance matrix **C—** C1 – TRM doesn't separate non-motorized trips. Use single non-motorized so can use TRM? ACS data provide separate bike and ped? C2 – This subset would be more interesting if using the TRM. C3 – How does this differ from C2? Use either C2 or C3?	**B—** Aspen **C—**

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IV. Manage Congestion & System Reliability	A. Allow people and goods to move with minimal congestion and time delay, and greater predictability. B. Promote Travel Demand Management (TDM, such as carpool, vanpool and park-and-ride) C. Enhance Intelligent Transportation Systems (ITS, such as ramp metering, dynamic signal phasing and vehicle detection systems)	**A—** 1. Average clearance time for crashes on principal roadways 2. Annual hours of delay per auto commuter (add transit?) 3. Percentage of of buses/trains arriving/departing on schedule 4. (Placeholder for freight) **B—** 1. Percentage of commuters driving alone 2. Number of employees included in TDM plans 3. Number of students included in TDM plans 4. Number of work places promoting TDM 5. Number of park-and-ride lots and usage 6. Number of vanpools per commuter capita **C—** 1. Percentage of VMT on roadways with real-time transportation information 2. Number of intersections with signal preemption or signal priority for buses.	**A—** 1. 2. 3. **B—** 1. Durham-Chapel Hill Metro: 74% Raleigh-Cary Metro: 81% 2. 3. 4. 5. 6. **C—** 1. 2.	**A—** A1 – The public find it hard to relate to this measure. Is 20% high? 40% high? Per capita hours or cost is more impactful. A2 – Does DOT have this measure? A3 – TRM or TTI. **B—** B1 – Data from 2012 5-Year ACS. B2, 3, 4 – Data from TJCOG TDM program B5 – Data not currently captured B6 – Data from GoTriangle **C—** C1 -- How measure?	**A—** A1 - Kenneth **B—** **C—**
V. Improve Infrastructure Condition	A. Increase proportion of highways and highway assets in 'Good' condition B. Maintain transit vehicles, facilities and amenities in the best operating condition. C. Improve the condition of bicycle and pedestrian facilities and amenities D. Improve response time to infrastructure repairs	**A—** 1. Percent lane miles of streets (thoroughfare and above) with unacceptable pavement condition ratings by NCDOT 2. Percent of structurally deficient bridges (rail too?) 3. Ratio of programmed to actual Transportation Improvement Program (TIP) (10-year) expenditures in MPO for roadway maintenance **B—** 1. Average fleet age by mode (bus, light rail, commuter rail) **C—** 1. Proportion of sidewalks ranked in good condition	**A—** 1. 2. 3. **B—** 1. **C—** 1.	**A—** A1 – DOT has the data A2 – DOT has the data. A3 – **B—** B1 – Data reported by transit agencies, can roll up to regional number. **C—** C1,2 – Look into ADA Transition Plans	**A—** A1 – Andy will look into local ratings as well. Paul will look into it for CAMPO. A2 – Matt A3 – Paul **B—** B1 – Geoff **C—** C1,2 – Kenneth

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		2. Proportion of crosswalks ranked in good condition 3. Proportion of bicycle facilities (bike lanes, shared use paths) ranked in good condition **D—** 1. NCDOT Division response time to pothole complaints 2. (no local measure identified yet)	2. 3. **D—** 1. 2.	**D1** – Look at Durham OneCall and Raleigh's equivalent on how they track complaints.	C3 - **D—** D1 - Andy
VI. Ensure Equity and Participation	A. Ensure transportation needs are met for all populations (especially the aging and youth, economically disadvantaged, mobility impaired, and minorities) B. Ensure that transportation investments do not create a disproportionate burden for any community C. Enhance public participation among all communities	**A—** 1. Percentage of Environmental Justice (EJ) population and total population within ½ mile of bus transit service or 1 mile of rail transit service 2. Percent of low-income communities of concern within 30 minutes of an employment center. 3. Percent of zero-car households within 30 minutes of an employment center. 4. Ratio of bus stops with shelters to all bus stops in EJ communities as compared to the same ratio across the urbanized area. **B—** 1. Does the 2045 MTP meet Environmental Justice requirements? **C—** 1. Number of participants in public participation process at a. Regional level b. Corridor/subarea level c. Project 2. Number of participants in public participation process by type (in-person, email, surveys, social media). 3. (Placeholder for measuring EJ participation specifically.)	**A—** 1. 2. **B—** 1. **C—** 1. 2. 3.	**A—** A1 – Do by block group, aggregate to county and MPO level. Consider within ¼ mile of frequent bus service. A2 –Employment center to be defined. A3 – Ensure that capital transit investments are provided in EJ communities no less than they are anywhere else in the community. **C—** C1– Get by zip code where possible. Now setting a baseline of participation. Maybe add one back in for measuring EJ participation specifically.	**A—** A1 – Paul, Andy, Lindsay A2 – Wei, Aspen **B—** B1 – Paul, Lindsay **C—**

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VII. Promote Safety and Health	A. Increase safety of travelers and residents B. Promote public health through transportation choices	**A—** 1. Number of vehicle crashes, serious injury and fatalities per million vehicle miles traveled a. Set targets at functional class level – thoroughfares vs. arterials vs. collectors 2. Pedestrian and bicycle crashes, serious injuries and fatalities per capita 3. Number of SPOT projects in TIP addressing accident hotspots. 4. Amount of investment in high-crash area pedestrian priority zones. **B—** 1. Percentage of adults who are physically inactive. 2. Percentage of population with adequate access to locations for physical activity.	**A—** 1. 2. 3. 4. **B—** 1. **Physical Inactivity** Potential Goal: 20% (top US counties) Chatham Co. – 23% Durham Co. – 21% Franklin Co. – 29% Granville Co. – 29% Harnett Co. – 28% Johnston Co. – 24% Orange Co. – 15% Wake Co. – 18% 2. **Access to Exercise Opps.** Potential Goal: 91% (top US counties) Chatham Co. – 64% Durham Co. – 91% Franklin Co. – 75% Granville Co. – 49% Harnett Co. – 63% Johnston Co. – 71% Orange Co. – 85% Wake Co. – 91%	**A—** A1 – Just use crashes or fatalities; not all of them. Demographics can affect this more than capital and operational changes. Find hotspots normalized by VMT, prioritize by severity. A2 – Just use crashes or fatalities; not all of them. More bike and ped trips will increase these numbers, and have bigger effect than the three Es. Identify hotspots **B—** B1, 2 – Robert Wood Johnson Foundation countyhealthrankings.org. By county, updated annually.	**A—** Paul, Tim, (Andy will pull in) Bryan Poole **B—** Chris will talk with Don Kostelec, Aspen will look into tools further
VIII. Stimulate Economic Vitality	A. Improve freight movement B. Link land use and transportation Target funding to the most cost-effective solutions C. Improve project delivery for all modes	**A—** 1. Truck hours of delay per trip 2. Average truck speed on appropriate freight corridors 3. Trip time reliability **B—** 1. Vehicle Miles Traveled (VMT) per capita 2. Average trip distance for each mode 3. Percentage of population within ½ mile of high-end bus transit service or 1 mile of rail transit	**A—** 1. 2. **B—** 1. 2. 3. 4.	**A—** A1 and A2 – Similar. Choose one! A1 easier to understand. Need to add air and rail too. **B—** B6 – Data source for this at local level?	**A—** John will ask Joe H. who can work on this. Andy & Wei will talk with Yanping re: trucks. John will look into rail PMs. **B—** Paul will look into

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		service 4. Percentage of total workers within the average commute travel time to their jobs. 5. Percentage of residential development within a 1 and 2 mile buffer of employment centers. 6. Percentage of trips less than 3 miles 7. Compact development: growth in population compared with acres developed **C—** 1. Average payback period of investments by mode. **D—** 1. Percentage of TIP projects completed on-time (let to construction) by mode (or, NCDOT project delivery measure) 2. Percentage of projects in the MTP being built in the time period in which they first appeared. 3. Percentage of projects in the TIP being built in the time period in which they first appeared.	5. 6. 7. **C—** 1. 2. **D—** 1. 2. 3.	**C—** D2, 3 – Set goals/thresholds by mode	freight measures. Aspen will clarify reasoning behind other measures. **C—** Chris **D—** Chris will look into project delivery measures at NCDOT.

Bike Rack (to circle back to later):

Objective: Minimize the negative effects of transportation investments to local communities