

Joint Board Meeting of the Capital Area MPO & Triangle West TPO

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Alternatives Analysis Scenarios to Study

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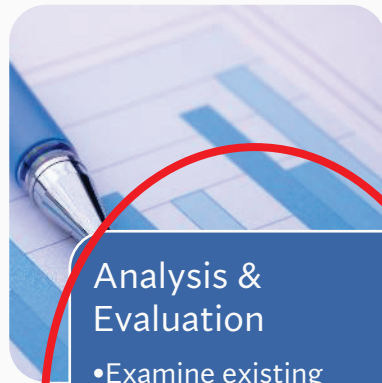


Typical Plan Update Development Process



Vision & Goals

- Review existing plan
- Update goals, objectives & performance measures



Analysis & Evaluation

- Examine existing conditions
- Forecast future problems
- Develop & analyze alternative scenarios



Preferred Option

- Select preferred option
- Analyze fiscal feasibility
- Confirm preferred option



Final Plan

- Finalize fiscal constraint
- Air quality conformity documentation
- Adoption

Review of the Pre-MTP “Learning Scenarios”



Transit-focused Scenario



Equity-focused Scenario



Reducing Growth of Vehicle Miles Traveled (VMT)



Flexible Funding Scenario



Highway-focused Scenario



Scenario Description:

Maximizing transit ridership by focusing all future growth in areas served by transit and doubling the frequency of transit services.

Key Takeaways from the Transit-focused Scenario:

- There are real, positive benefits to the functioning of the transportation system by investing in additional transit services and focusing future development around transit services, across a wide array of performance measures, including:
 - Transit ridership and passenger service miles
 - Job Access within 30 minutes by transit & walking from low-income and high-zero-car areas
 - Number of households and jobs in proximity to high-quality transit services
 - Acres of land consumed by future development
- Would see increases in automobile delay measures, but relatively limited overall



**Generally
Positive
Performance
Measure
Results**



Scenario Description

Examined options for policy interventions that would result in more equitable transportation outcomes – considered three options: (A) moving jobs to people; (B) moving people to jobs; and (C) adding more affordable housing in transit-served areas

Key Takeaways from the Equity-focused Scenario:

- Each option has a mixture of performance measure outcomes, but some better than others:
 - Option A: generally mixed results
 - Option B: generally positive results, but does perform worse than baseline on congestion and delay measures
 - Option C: generally positive results, but does perform poorly on delay measures specifically for disadvantaged communities
- Activities to promote/provide affordable housing near jobs (especially retail, service, and industrial jobs) as in Option B and to promote/provide affordable housing near high-quality transit services as in Option C appear to have the best potential to improve transportation equity, but would require additional external actions beyond what the transportation planning process can achieve on its own



**Generally
Mixed-to-
Positive
Performance
Measure
Results**



Scenario Description:

Minimize growth of VMT by reducing per-capita VMT through concentration of development in transit-served areas, increasing transit frequencies, instituting a VMT-based fee, and increasing the rate of working from home

Key Takeaways from the VMT Reduction Scenario:

- This scenario has positive outcomes across all measures we considered as part of this exercise, including significant improvements compared to the baseline on:
 - Transit ridership and passenger service miles
 - Congested VMT
 - Hours of delay for low-income households
 - Jobs within 30 minutes by transit for low-income and zero-car households
 - Population and jobs near high-quality transit
 - Acres of land consumed by development
- Each of the four component factors contributes to the outcome, and even a lesser/more realistic combination of these factors could still have an effect on VMT growth



**Positive
Performance
Measure
Results**



Scenario Definition:

Three options for alternative funding assumptions: (A) removing STI funding categories/tiers; (B) removing all STI funding caps and restrictions; and (C) shifting more money toward maintenance and operations/less toward capacity expansion.

Key Takeaways from the Flexible Funding Scenario:

Each option had generally negative-to-neutral outcomes:

- Option A
 - Worse than baseline on transit ridership/service miles, congested VMT, auto congested travel time, and hours of delay
 - Better than baseline on transit congested travel time
- Option B
 - Worse than baseline on transit ridership/service miles, congested VMT, auto congested travel time, hours of delay, and jobs accessible by auto
 - Better than baseline on overall VMT and fuel consumption
- Option C
 - Worse than baseline on majority of measures
 - **Only scenario with better maintenance/operations**



**Generally
Negative
Performance
Measure
Results**



Scenario Description:

Examining continued low-density, highway-oriented development patterns, with an assumption of massive investment in the freeway network (doubling of lane miles). The scenario is extreme and unrealistic, but is still useful as a way to examine what could happen if such a type of investment *were* possible.

Key Takeaways from the Highway-focused Scenario:

- The Highway-focused Scenario had a mixture of positive and negative outcomes in comparison to the baseline scenario.
- A number of roadway congestion-related measures saw significant improvement, including an 86% decrease in hours of delay, a 22% increase in job access by automobile for low-income households, and a 9% reduction in congested travel times
- Measures related to transit generally performed worse than the baseline, with lower transit ridership and reduced job and housing access by transit
- Environment and quality of life measures also performed worse in the Highway-focused Scenario, with higher VMT, greenhouse gas emissions, fuel consumption, and land consumption



**Generally
Mixed
Performance
Measure
Results**

Learning Scenario Elements to Carry Forward into *Destination 2055* Alternatives Analysis

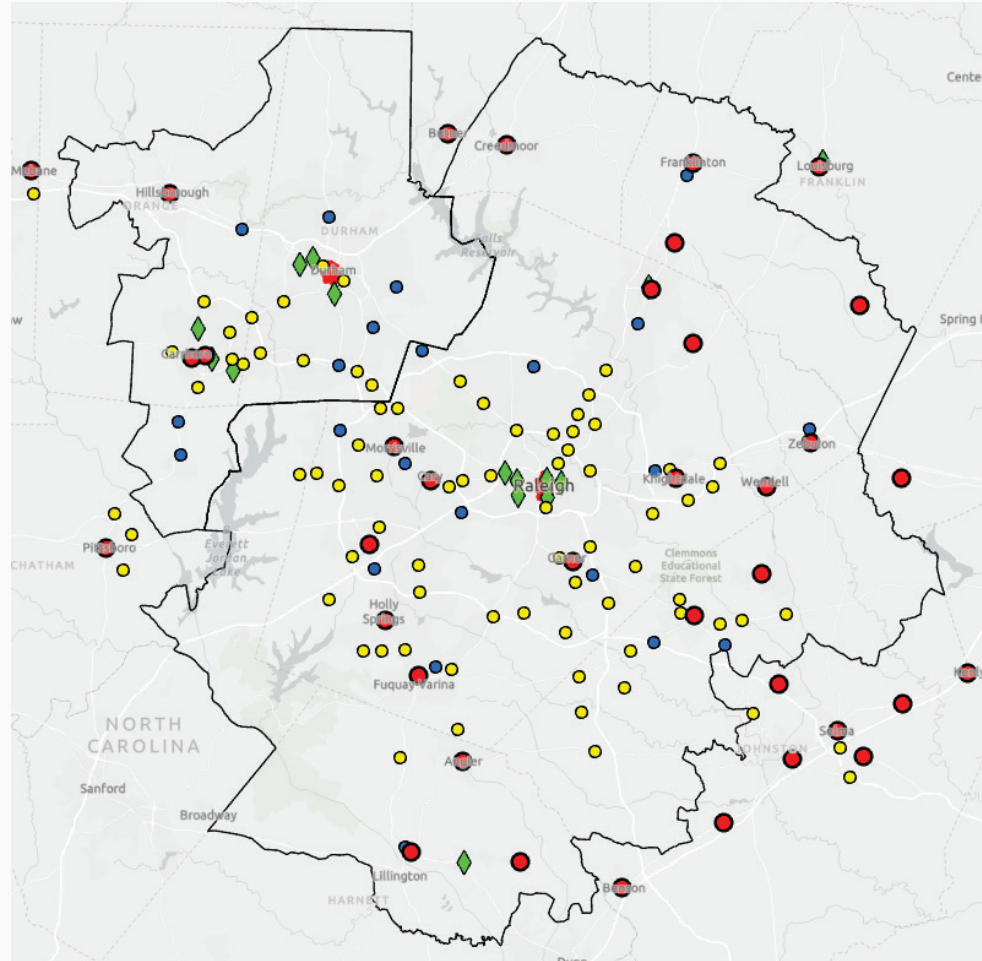
| Key Scenario Elements | Origin Scenario |
|---|---|
| Keep Key and Halo Hubs, REINVEST Neighborhoods, Mobility Hubs & Mobility Choice Places from 2050 MTP, but update to reflect any changes made to these categories and increase density/employment in those areas where possible | <ul style="list-style-type: none"> Modified/updated from 2050 MTP VMT Growth Reduction Scenario Transit-focused Scenario |
| Increase transit frequency (where possible) and add additional high-frequency corridors | <ul style="list-style-type: none"> Transit-focused Scenario |
| Additional focus on affordable housing growth in transit-served areas | <ul style="list-style-type: none"> Equity Scenario |
| Assumption of increased Work From Home | <ul style="list-style-type: none"> VMT Growth Reduction Scenario |
| Increase assumed share of funding going to maintenance and operations | <ul style="list-style-type: none"> Flexible Funding Scenario |
| Flexible modal investment strategy for non-STI/local/additional revenue assumptions | <ul style="list-style-type: none"> Modified/updated from 2050 MTP Flexible Funding Scenario |
| Additional local/regional funding source (agnostic on actual source) | <ul style="list-style-type: none"> Modified/updated from 2050 MTP VMT Reduction Scenario |

Recommended Alternatives to Study in *Destination 2055*

Before we begin...some helpful Definitions

| Key Hubs | Description | Examples |
|----------------------|---|---|
| Anchors | Places with the highest concentrations of jobs and services, plus places with moderate intensity and an anchor institution that can influence mobility-based policy decisions | <ul style="list-style-type: none"> • Metropolitan Central Business Districts • Major Universities • Major Medical Centers • Research Triangle Park |
| Mainstays | Places with regionally significant concentrations of jobs, either outright or in comparison to their surroundings | <ul style="list-style-type: none"> • Many mid-sized town and city centers • Some suburban centers, often along major transportation corridors |
| Mobility Hubs | Mixed-use regional activity centers along existing major transportation corridors | <ul style="list-style-type: none"> • Hubs identified as activity centers in various plans • Locations served by fixed-guideway transit or frequent bus service (at least every 20 minutes) • Locations near medical facilities |

Before we begin...some helpful Definitions



Building the Alternatives

- Each alternative is based on two sets of assumptions:



A **Development Foundation** that describes the anticipated land use patterns for future growth



A **Mobility Investment Foundation** that describes the anticipated transportation investments/network

- These get combined in various ways to create scenarios

Building the Alternatives

Development Foundations

P Community Plans

Future development patterns and densities based on adopted local land use plans

O Opportunity Places

Building on community plans, but with additional emphasis on development around anchor institutions, mobility hubs, affordable housing opportunity sites, and equitable transit-oriented development (details vary based on paired mobility foundations)

Mobility Investment Foundations

E Existing & Committed

Existing network, plus projects underway or planned in next 4-5 years

T Trend Investment

Future network investments similar to current conditions/investments





M Mobility Corridors

Building on Trend, but with additional funding available to invest

C Complete Communities

Building on Mobility Corridors above, but with more additional funding focused on transit, active transportation, and complete/safe streets

**Destination 2055
Scenario
Framework**

| | | Mobility Investment Foundation | | | | |
|------------------------|--------------------------------|---|--|---|--|---------------------------|
| | | E Existing & Committed | T Trend | M Mobility Corridors | C Complete Communities | U Unconstrained |
| Development Foundation | P Community Plans |  Deficiency & Needs Scenario |  Plans & Trends Scenario |  Shared Leadership Scenario | | |
| | O Opportunity Places | | | |  All Together Scenario | |
| | B Build Out | | | | | |

Note: moving from left to right, and from top to bottom, each scenario builds on the elements of the preceding scenarios.



Deficiencies & Needs Scenario

Scenario Purpose:

- To explain what might happen if all anticipated growth occurs, but we do not make changes to the transportation network
- To provide an initial baseline of comparison for other alternatives
- To provide information about potential locations of future needs/system deficiencies

Important Note:

- This scenario is purposefully unrealistic. However, it provides us with useful information for the overall MTP analysis.





Deficiencies & Needs Scenario

Development Foundation:

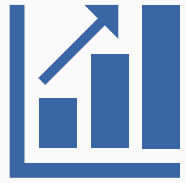
P Community Plans

- Based on future land use category designations shown on locally-adopted land use plans
- Initial input was gathered from local jurisdictions in late 2023/early 2024, with further review in late 2024

Mobility Investment Foundation:

E Existing + Committed

- Only includes existing infrastructure, plus those projects that are underway or committed for funding within the next 4-5 years (current TIP period)



Plans & Trends Scenario

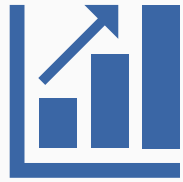
Scenario Purpose:

- Represents a likely future if there are no changes to current patterns of transportation funding and investment decisions or land use planning policies
- Based on current trends and restrictions for revenue

Important Note:

- This is the “simplest” alternative to implement, but that does not mean it is “easy” to achieve





Plans & Trends Scenario

Development Foundation:

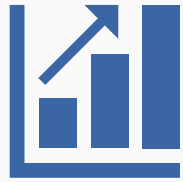
P Community Plans

- Based on future land use category designations shown on locally-adopted land use plans
- Same as in Deficiency & Needs scenario

Mobility Investment Foundation:

T Trend Investment

- State funding in line with NCDOT forecasts
- Constrained by STI limitations (funding categories, mode caps, corridor caps, etc.)
- Federal funding maintained at current IIJA levels
- Transit investments consistent with county plans/funding forecasts
- Rail – partnerships for increased intercity passenger services
- Local funding as identified by jurisdictions



Plans & Trends Scenario

CAMPO Example Projects:

- Highway:
 - Completed Outer Loop & widened/improved major highways
 - Fewer improvements to secondary roads
- Transit/Rail:
 - Partnerships for increased intercity passenger rail service
 - BRT services (Raleigh N/S/E/W, Cary N/S, Midtown)
 - Bus frequency and area coverage improvements based on Wake Transit plan

DCHC MPO Example Projects:

- Highway:
 - 2050 MTP Highway Projects
 - Plus capacity improvements & new projects since 2050 plan
- Transit/Rail:
 - Current Intercity Passenger Rail
 - Chapel Hill NS BRT line
 - Bus improvements from short range plans, county transit plans, and a few timing changes



Shared Leadership Scenario

Scenario Purpose:

- Analyze a future with stronger local/state/federal partnerships and emphasis on multimodal investments in key “Mobility Corridors”
- Assumes additional funding amounts (NC FIRST Commission; modest local and federal increases) and flexibility (STI flexibility beginning in second decade of plan)

Elements Incorporated from Learning Scenarios & Other Feedback:

- Additional transit and multimodal investment
- Increased work from home percentage
- Consider increasing share of funds to maintenance and operations
- Consider increasing share of funds earmarked for safety projects



Shared Leadership Scenario

Development Foundation:

P Community Plans

- Based on future land use category designations shown on locally-adopted land use plans
- Same as in Plans & Trends scenario

Mobility Investment Foundation:

M Mobility Corridors

- Take the base of investments from the Trend Scenario, *PLUS*:
 - Additional state funding based on NC First Commission recommendations, starting in second decade
 - Modest growth of federal funding to keep pace with inflation
 - Additional transit investments beyond the horizon of county transit plans
 - Modest increase in local funding amounts
 - Added flexibility in STI restrictions beginning in second decade



Shared Leadership Scenario

CAMPO Example Projects:

- Highway:
 - Completed Outer Loop & widened/improved major highways
 - Fewer improvements to secondary roads
- Transit/Rail:
 - Partnerships for increased intercity passenger rail service, plus Regional Rail in Wake County
 - BRT services (Raleigh N/S/E/W, Cary N/S, Midtown, NC 54, I-40)
 - Bus frequency and area coverage improvements based on Wake Transit plan

DCHC MPO Example Projects:

- Highway:
 - 2050 MTP Highway Projects
 - Congestion Management Process (CMP) Projects and other needed projects
- Transit/Rail:
 - Current Intercity Passenger Rail
 - 2-3 BRT lines based on 2050 MTP with adjustments (incl. Chapel Hill NS BRT line)
 - Bus improvements from short range plans, county transit plans, with adjustments



All Together Scenario

Scenario Purpose:

- Serves as an ambitious scenario that looks at what might be possible if the region is able to bring in additional funding/more flexibility in funding
- Has an additional focus on improvements to transit, active transportation, and complete/safe streets

Elements Incorporated from Learning Scenarios & Other Feedback:

- Additional transit frequency/corridors and multimodal investment, above and beyond Shared Leadership Scenario
- Additional density of development in areas with high-frequency transit, mobility hubs, areas near anchor institutions
- Increased local funding toward safety, maintenance & operations
- Additional funding flexibility, particularly with local funding



All Together Scenario

Development Foundation:

O Opportunity Places

- Built on same base assumptions as Community Plans, but with additional focus increased development around:
 - **Anchor Institutions** (universities)
 - **Mobility Hubs** (major activity centers)
 - **Affordable Housing**
 - **Equitable TOD**

Mobility Investment Foundation:

C Complete Communities

- Take the base of investments from the Mobility Corridors foundation, *PLUS*:
 - Additional local/regional funding (source of funding is agnostic)
 - Potential for additional funding from state or other regional partners
 - Additional focus on transit, active transportation and complete/safe street investments



All Together Scenario
















































CAMPO Example Projects:

- Highway:
 - Completed Outer Loop & widened/improved major highways
 - More improvements to secondary roads
- Transit/Rail:
 - Partnerships for increased intercity passenger rail service, plus expansion of Regional Rail beyond Wake County
 - BRT services (Raleigh N/S/E/W, Cary N/S, Midtown, NC 54, I-40)
 - Bus frequency and area coverage improvements based on Wake Transit plan

DCHC MPO Example Projects:

- Highway:
 - 2050 MTP Highway Projects
 - Plus Congestion Management Process (CMP) Projects and other needed projects
- Transit/Rail:
 - Current Intercity Passenger Rail plus Regional Rail
 - All 4 BRT lines based on 2050 MTP with adjustments
 - Bus improvements from short range plans, county transit plans, with adjustments

Scenario Comparison

| | Deficiencies & Needs | Plans & Trends | Shared Leadership | All Together |
|---------------------|---|---|--|--|
| Available Funding | \$ | \$\$ | \$\$\$ | \$\$\$\$ |
| Highway Investment |  | CAMPO:   DCHC:    | CAMPO:   DCHC:   | CAMPO:    DCHC:   |
| Bus Investment |  |   |    |     |
| Rail Investment |  | CAMPO:   DCHC:  | CAMPO:    DCHC:  | CAMPO:     DCHC:  |
| Development Density |   |   |   |    |

Community Engagement Plan for Alternatives Analysis



Part One - Inform (March-April)

- Educational Info
 - MTP Development progress
 - Outcomes of Goals & Objectives
 - Rollout of Deficiency & Needs, Each Alternative Scenario
- Tactics range from **digital to in-person**
 - Videos, website, social media reels, handouts, pop-ups, community org presentations to ensure broad participation, more...
 - Translations

Part Two – Inform & Consult (April)

- Obtain and Consider Feedback on priorities for a Preferred Scenario
- Emphasis on infographics/visualizations
- Tactics – Same as Part One, **plus:**
 - Online & Paper Survey
 - Paid advertising
 - Virtual meeting/s

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Discussion Prompt:

Based on what has been presented, do you have any questions?

Is there any feedback you would like staff to consider as they perform the technical work of defining and analyzing these alternatives?

