Weekly Events Digest

Friday, April 1 – Thursday, April 7

City of Raleigh Office of Emergency Management and Special Events
specialevents@raleighnc.gov | 919-996-2200 | raleighnc.gov/special-events-office

Permitted Special Events

Morning Times First Friday Market
Hargett Street
Friday, April 1
Event Time: 7:00pm - 11:00pm
Associated Road Closures: E. Hargett Street between Fayetteville Street and S. Wilmington Street will be closed from 6:00pm until 11:59pm.

Walk MS: Raleigh
PNC Arena & Blue Ridge Road
Saturday, April 2
Event Time: 7:30am - 12:00pm
Associated Road Closures: Roads and lanes along the route will be closed from 9:20am until 11:30am. Note that Trinity Road and Blue Ridge Road will remain accessible to traffic during the event, and see below for turn-by-turn directions:

Start on PNC Arena property; Head east on Westchase Boulevard; Right onto Blue Ridge Road; Right onto Trinity Road; Right at Gate B to enter PNC Arena property to finish

Dreamville Festival
Dorothea Dix Park
Saturday, April 2 & Sunday, April 3
Event Time: 12:00pm - 11:00pm on 4-2-22 & 4-3-22
Associated Road Closures: Construction will be taking place on the Big Field only, however, increased traffic accompanied by large equipment throughout Dix Park is to be expected in advance of and following the event. Please see details below for more information:

- March 27 – April 7: The Big Field is closed to the public; Biggs Drive will be closed from Blair Drive to Goode Street
- April 1 at 10:00pm – April 4 at 6:00am: All of Dix Park property is closed to the public

For all festival-related information, including tickets, parking, accessibility, entry rules, and safety guidelines, visit the Dreamville Festival website FAQs.

Other Events This Weekend

First Friday Raleigh
Friday, April 1
Downtown Raleigh

First Friday Feature Film – Disney's Cool Runnings
Friday, April 1
Moore Square

No Remorse Comedy Tour
Friday, April 1
PNC Arena

Fairy Tales & Dragons – North Carolina Symphony
Saturday, April 2
Meymandi Concert Hall

Hurricanes vs. Wild
Saturday, April 2
PNC Arena

Black Flea Market
Sunday, April 3
Moore Square

CrankGameplays Presents: I Have To Do This Show
Sunday, April 3
Fletcher Opera Theater

Public Resources

Pilot Text Alert Program: Sometimes spontaneous events happen downtown and in other areas that could affect local businesses. If you'd like to receive notifications when those events happen, including unpermitted ones, sign up for text alerts.

Event Feedback Form: Tell us what you think about Raleigh events! We welcome citizen and participant feedback and encourage you to provide comments or concerns about any events regulated by the Office of Emergency Management and Special Events. We will use this helpful information in future planning.

Road Closure and Road Race Map: A resource providing current information on street closures in Raleigh.

Online Events Calendar: View all currently scheduled events that impact City streets, public plazas, and Dorothea Dix Park.

Council Member Follow Up

Raleigh

memo

To	Marchell Adams-David, City Manager
From	David Eatman, Assistant Director Crystal L. Odum, Transportation Planner
Departments	Department of Transportation CAMPO
Date	April 1, 2022
Subject	Council Follow-up Item: March 15, 2022 Meeting Mobility Management Program Implementation Study

The Capital Area Metropolitan Planning Organization (CAMPO) has partnered with Wake County, the town of Cary and the City of Raleigh to study the potential benefits of mobility management. These four project sponsors have provided funding for the Mobility Management Program Implementation Study. As defined by the National Center for Mobility Management, mobility management is, “an approach to designing and delivering transportation services that starts and ends with the customer. It begins with a community vision in which the entire transportation network including public transit, private operators, cycling and walking, volunteer drivers and others work together with customers, planners, and stakeholders to deliver the transportation options that best meet the community's needs.

Mobility management:

1. Encourages innovation and flexibility to reach the "right fit" solution for customers,
2. Plans for sustainability,
3. Strives for easy information and referral to assist customers in learning about and using services and
4. Continually incorporates customer feedback as services are evaluated and adjusted."

The overall engagement strategy for this study consists of stakeholder agencies/local governments/transit and human services partners developing the initial framework for regional mobility management, based on, but not limited to, reviews of existing transportation services and plans and peer reviews and analysis, stakeholder interviews and input from the various decision-makers followed by a broader, more public-facing outreach effort with additional stakeholder presentations and information sharing.

A presentation was provided by CAMPO staff on May 15 that provided an overview of mobility management introducing the study and mobility management's potential impact to the region. The presentation marked the first phase of public engagement with stakeholders and decision makers.

After the presentation, Council asked staff to provide information on public outreach for the first phase of the process. A summary of initial efforts is below.

The Mobility Management Program Implementation Study Technical Steering Committee includes staff from the following organizations: CAMPO, GoWake Access, Wake County, Live Well Wake, GoRaleigh, North Carolina Department of Transportation (NCDOT), Harnett Area Rural Transit (HART), Harnett County, Johnston County Area Transit System (JCATS), Kerr Area Transportation Authority (KARTS), GoTriangle, Town of Apex, Transformation Exchange/Community Partnership Network, Town of Wendell, Wake County Southern Regional Center, Wake County Eastern Regional Center, Wake County Northern Regional Center, Housing Authority of Wake County, Wake County Veterans Administration and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC-MPO-invited).

The following organizations were interviewed directly for their input:

GoCary, GoRaleigh, GoTriangle, HARTS, JCATS, KARTS, Transformation Exchange/ Community Partnership Network, Live Well Wake, GoWake Access, Wake County Southern Regional Center, Wake County Eastern Regional Center, Wake County Northern Regional Center, Wake County Veterans Administration and Triangle J Council of Governments (TJCOG).

Several organizations have also received presentations regarding the ongoing study and have had the opportunity to provide initial feedback. They include but are not limited to:

Raleigh City Council, CAMPO Technical Coordinating Committee & Executive Board, Raleigh Transit Authority, Raleigh Mayor's Committee for Persons with Disabilities, Town of Cary, GoWake Access Transit Advisory Board, Johnston County Transit Advisory Board, Eastern Regional Community Advocacy Committee, the Transportation Planning Advisory Committee (TPAC) and the KARTS Executive Board.

The next phase in engagement consists of convening focus groups made up of potential users of the mobility management program who will provide input on and vet the mobility management concepts being proposed. Potential users include those currently riding the various public transportation services in the CAMPO planning area, representatives of client organizations such as groups advocating for individuals with disabilities, older adults, veterans, faith-based organizations, and social workers. The project team will work through the TSC, the Mobility Coordination Committee which consists of regional transit providers and human service agencies, and the various stakeholder boards to identify possible focus group participants.

The study team will present task findings to the decision-makers in late Spring.

Raleigh

memo

To	Marchell Adams-David, City Manager
Thru	Michael Moore, Director
From	Anne Conlon, PE – Senior Transportation Engineer
Department	Transportation
Date	March 31, 2022
Subject	City Council Follow Up – Vehicle Miles Traveled Metric

During the February 15, 2022 Council meeting, Mayor Pro Tem Stewart requested a report from staff describing how the City could transition away from the 'level-of-service' (LOS) metric currently used to assess infrastructure sufficiency for new development and instead move towards the 'vehicle miles traveled' (VMT) metric. This memorandum provides background and the latest research on LOS and VMT and describes several steps the City could take to move toward the use of VMT. The initial memorandum was provided on 3/18/22 and then expanded following an email from Council Member Cox requesting more detail on the specifics of VMT analysis.

Existing Use of Level-of-Service Metric

The Transportation department currently uses the LOS metric as part of Traffic Studies, whose purpose as defined in the *Raleigh Street Design Manual* is:

- To provide reliable guidance on short- and long- range planning of site access and off-site improvements;
- To assist developers and property owners in making critical land use decisions regarding traffic and other modal needs;
- To provide government review agencies with recommendations for achieving responsive and consistent transportation and access policies.

The *Raleigh Street Design Manual* further specifies that "the standard to provide mitigation is when overall intersection or approach level-of-service degrades from LOS-E to LOS-F. Another standard to provide mitigation is when arterial level-of-service degrades from LOS-E to LOS-F."

LOS is defined in the *Highway Capacity Manual*, a standard practice traffic engineering resource, as a "qualitative measure describing operation conditions within a traffic stream, and their perception by motorists and/or passengers". LOS varies from A, which is described as "free flow", to LOS F, which is described as "forced flow (congested and queues fail to clear)".

Traffic studies are typically used by staff in the following three contexts:

- To estimate the transportation impacts of rezoning cases and forecast whether programmed or planned infrastructure will be sufficient to serve the entitlement requested;

- To identify the impacts of site plan and subdivision submittals on the transportation system and determine whether developers should provide mitigations to address impacts; and
- To project future intersection and corridor performance of public street and road projects and to select appropriate laneage and traffic control to be implemented.

There are two typical responses to address the localized traffic impacts identified in LOS analysis. Capacity can be added to intersections in the form of additional lanes or traffic control devices. Capacity improvements tend to increase the width of roadways and intersections and therefore lengthen crossing distances. Alternatively, the development can be downsized to reduce vehicular trip projections.

The use of traffic studies based on LOS as described above is standard practice across North Carolina and much of the United States and is also used by the North Carolina Department of Transportation as a requirement for obtaining a Driveway Permit to gain new or modified access to the state transportation system.

Shortcomings of the LOS Metric

There is increasing awareness and discussion across the transportation and planning professions of the shortcomings of this analysis framework, especially in urban contexts such as Raleigh's. Recent decades have shown that congestion-focused mitigations tend not to decrease congestion but rather to maintain or increase it through the mechanisms of induced demand and other unintended consequences. Critiques of the LOS analysis framework include the following:

- LOS analysis in TIA's incentivizes development on the outskirts of cities where existing traffic is low and excess roadway capacity is available. This leads to low-density development that is spread out around City edges, which tends to increase the distances between destinations. Regional VMT is correspondingly increased.
- LOS analysis does not consider the alternative to any particular development. If the development is not placed on a constrained congested corridor due to capacity concerns, where will that development locate? The longer trips that result from alternative placement may increase travel demand on the corridor rather than reducing it. Will the development replace existing longer trips with shorter trips, rather than generating new trips? The result is that LOS analysis tends to overpredict the impacts of infill development. A 2015 study found that the *Trip Generation Manual*, which is the industry standard resource for traffic studies, overestimates trips by 55 percent[1]. This is consistent with local experience, where subsequent traffic counts taken by NCDOT show lower (or no) growth in volumes compared with model predictions.
- The mitigations typically identified by LOS analysis tend to improve conditions for driving in the right-of-way during the peak hour while degrading conditions for all other users. These responses also tend to reduce the viability of all land uses and architecture types outside of the right-of-way except those explicitly built around the automobile,

[1] Millard-Ball, A. (2015). Phantom trips: Overestimating the traffic impacts of new development. *Journal of Transport and Land Use*, 8(1), 31-49.

such as big box stores supported by large parking lots. These development patterns further degrade the comfort and practicality of alternative modes in a reinforcing cycle that reduces mode choice and locks in the automobile as the only viable way to travel.

- LOS analysis fails to incorporate how changes in capacity and ease of travel affect travel behavior. These analyses assume previous trends in traffic growth and mode share will continue whether or not capacity is provided, land use patterns change, or street design changes. The research shows that travel behavior is responsive in the short- and long-term to the local built environment and congestion[2].
- The increase in vehicular miles travelled resulting from each of the points above generates a variety of environmental and public health impacts.
- Finally, it is worth asking whether a singular focus on mitigating peak hour delays is appropriate if doing so undermines other policy goals of the City, such as encouraging transit and active transportation modes and building vibrant mixed-use places. Some localized congestion may be a worthwhile trade-off if the result is greater vitality and the availability of mode choices that aren't affected by congestion.

In summary, traffic studies based on LOS analysis tend to assume a future where all travel is completed by single occupancy vehicles and then produce actions (e.g.: adding lanes) that ensure that future by requiring the transformation of both the right-of-way and surrounding developments into environments hostile to all other modes. This increases the VMT generated by each city resident and visitor, which requires more transportation infrastructure to maintain per person in an era of over-stretched City and NCDOT budgets.

Alternatives to LOS

Some industry groups and organizations have sought to reform LOS analysis to address the concerns noted above. The Transportation Research Board, for example, updated the *Highway Capacity Manual* in 2010 to include service standards for bicyclist and pedestrians. The collection of metrics that resulted are termed 'multimodal level of service' or MMLOS. While this metric considers impacts to other modes, it doesn't address the underlying assumptions built into LOS analysis described above or get to the root of the shortcomings identified.

California has led the way in a larger shift in practice with the 2013 adoption of Senate Bill 743 (Steinberg, Chapter 386, Statutes of 2013). Senate Bill 743 mandated the update of state environmental review of transportation impacts to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses"[3]. State agencies responded by identifying VMT as the most appropriate metric to evaluate transportation impacts and changing the rules to remove LOS as a relevant metric. That change went into effect on July 1, 2020.

California's Governor's Office of Planning and Research (OPR) summarizes the benefits and use of VMT analysis on their FAQ page[4], which includes links to key resources and technical

[2] Noland, R. B., & Lem, L. L. (2002). A review of the evidence for induced travel and changes in transportation and environmental policy in the US and the UK. Transportation Research Part D: Transport and Environment, 7(1), 1-26.
[3] Cal. Pub. Res. Code § 21099(b)(1).
[4] https://opr.ca.gov/ceqa/sb-743/faq.html

advisories. In a key consideration of the shift in practice, this webpage notes "decades ago, it was believed that increased driving was necessary for economic growth. However, we now know that economic growth does not require an increase in driving. Further, recent research has shown that the old system based on LOS actually slowed economic growth by creating development patterns that limited residents' ability to get to their daily destinations."

The Benefits of VMT

The OPR summarizes VMT in the context of a transportation impact analysis as "the amount and distance of automobile travel attributable to a project".[5] Many of the shortcomings of LOS listed previously are a result of LOS mitigations' tendency to increase overall VMT. VMT is directly correlated to roadway lane-miles that must be maintained by the City. A VMT analysis measures the average amount of travel per unit of new development (e.g. resident or employee) to the average amount of a travel per unit of existing development across the City. This correlates to the roadway maintenance burden per unit and allows the City to better understand the impact of new development on maintenance and avoid maintenance cost increases that outpace increased tax base. This kind of analysis is especially useful to support policy decisions, such as rezoning determinations. LOS analysis may continue to be a useful tool in conjunction with VMT as part of site plan review to support the design of new access points and manage congestion locally, especially where other modal options are limited.

VMT is also more directly relevant to the City's greenhouse gas reduction goals. Over 40 percent of emissions in Raleigh's greenhouse gas inventory were found to be due to transportation, and the quantity of emissions from transportation is directly related to miles travelled. The only proven ways to reduce transportation GHGs are to improve vehicle efficiency, increase the share of vehicles that can be powered by renewable energy, and to lower total miles travelled. Of these, the last is the area in which local governments can have the most impact through coordinated land use and transportation planning. Raleigh is a growing city, and as it grows total vehicle miles travelled can be expected to increase. However, by encouraging more development patterns with lower VMT than baseline, the City's per capital VMT could decline with growth.

In California, the VMT generated by office and residential uses, or those components of mixed-use projects, are compared to the city-wide or regional average. If the project generates VMT at a rate that is 15% or more below the average rate, no mitigation is required. If projected VMT is higher, a significant impact is found and mitigations must be provided. Retail components of projects are studied to determine if they are likely to increase or decrease VMT and must be mitigated if any increase is projected. A city or regional map of average VMT across the community must be developed and maintained to support VMT evaluation.

Where a project is projected to have a significant impact on VMT, the OPR suggests potential mitigations such as "Tolling new lanes to encourage carpools and fund transit improvements, converting existing general purpose lanes to HOV or HOT lanes, implementing or funding off-site

[5] Governor's Office of Planning and Research. (2018). Technical Advisory on Evaluating Transportation Impact in CEQA.

travel demand management, implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes".

The OPR's technical advisory also notes a key point for the City of Raleigh to consider:

> "Because location within the region is the most important determinant of VMT, in some cases, streamlining…review of projects in travel efficient locations may be the most effective means of reducing VMT."

Many communities in California use screening thresholds "to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study". The OPR suggests thresholds based on size, access to transit, and the provision of affordable housing.

Action Items to Transition to the Use of VMT

If Council would like to pursue the use of VMT analysis, staff recommends the following steps:

1. Coordinate with CAMPO on the consultant-led development of a VMT analysis screening tool and methodology for VMT-based studies.
2. Submit a staff-initiated text change to the UDO and Raleigh Street Design Manual to modify the content and metrics required for traffic studies that support rezoning analysis.
3. Submit a Comprehensive Plan amendment to emphasize the existing policies relevant to VMT analysis and de-emphasize or remove conflicting policies.
4. Complete a review of best practices in integrating VMT analysis into the development review process.

Each step is described in more detail in the following section.

Step 1: VMT Analysis Screening Tool and Methodology

Before the City transitions to analyzing rezoning cases using VMT analysis, the City must establish appropriate VMT-based thresholds that trigger a traffic study. Current traffic study triggers are based on expected trip generation and existing tools have been developed to efficiently screen zoning cases based on this metric. A new tool or other screening criteria is needed to support determinations under the VMT framework. Submittal requirements must also be developed and written up to support the text change process in the following step.

Since CAMPO maintains the regional Travel Demand Model, which is an input into VMT analysis, CAMPO is a logical lead agency to develop tools for all municipalities in the region to utilize in traffic studies. CAMPO funds planning efforts through the *Unified Planning Work Program* (UPWP), which has been approved for FY23 (July 1, 2022 – June 30, 202). Staff could submit to CAMPO for funding in FY24, which would delay the start of development to July 1, 2023.

Alternatively, Council could allocate funding to allow the City to work with a consultant on the development of this tool on its own in the near-term. The City could obtain consultant services through a standalone contract or through an on-call contract. Transportation Planning's current on-call expires in May, 2022 and staff intends to initiate a new on-call around that time to maintain on-call capacity.

Step 2: Text Change Process

Once screening criteria have been identified and a methodology established, staff can initiate a text change to relevant code requirements to support the use of VMT in rezoning traffic studies. Changes are needed to Section 8.2 Infrastructure Sufficiency in the *UDO* as well as Chapter 7 Traffic Impact Analysis in the *Raleigh Street Design Manual*. Following this text change, staff will be able to evaluate rezoning cases with VMT analysis.

Step 3: Comprehensive Plan Amendment

In parallel to the text change, staff recommends refinements to the text and policies in the *Comprehensive Plan* to ensure consistency with the updated approach to transportation impact review and the latest research on congestion. There are several policies in the Plan that directly support VMT reduction (RC 1.5, LU 4.4.) and other sections reference the connection between other policies and VMT outcomes. At the same time, there are multiple references through the Plan that speak about reducing congestion and describe it as "one of the biggest threats to the region's quality of life". This focus on congestion as the problem, rather than a lack of transportation choices and mobility, can tend to support localized mitigations that work against mode choice and walkable urban and suburban centers. This language and the other policies that speak directly to level of service should be reviewed and reconsidered to ensure they align with the City's larger goals.

Step 4: VMT in Development Review

Once Step 1 is completed, staff recommends that the City develop an analysis approach to development review in parallel to the processing of the text change in Step 2. The revised approach to site plan review will be more time intensive and can be combined with a planned overall update to the *Raleigh Street Design Manual*. Many of the jurisdictions that have implemented the use of VMT analysis in California have retained LOS-based analysis for site plan review to address localized impacts and mitigations. The City could take a hybrid approach to development review that may depend on land use context, availability of transit, or other factors.