



**February 1, 2021**

**To:** Regional Planning and Highways Committee

**From:** Darrell E. Johnson, Chief Executive Officer

**Subject:** South Orange County Multimodal Transportation Study Update

### **Overview**

The Orange County Transportation Authority is conducting a long-range multimodal transportation study for the south Orange County area. Objectives of the study are to document transportation issues and opportunities, engage with key stakeholders, partner agencies, and the public to identify potential long-term multimodal solutions. A status report on the study is provided for Board of Directors' consideration.

### **Recommendation**

Receive and file as an information item.

### **Background**

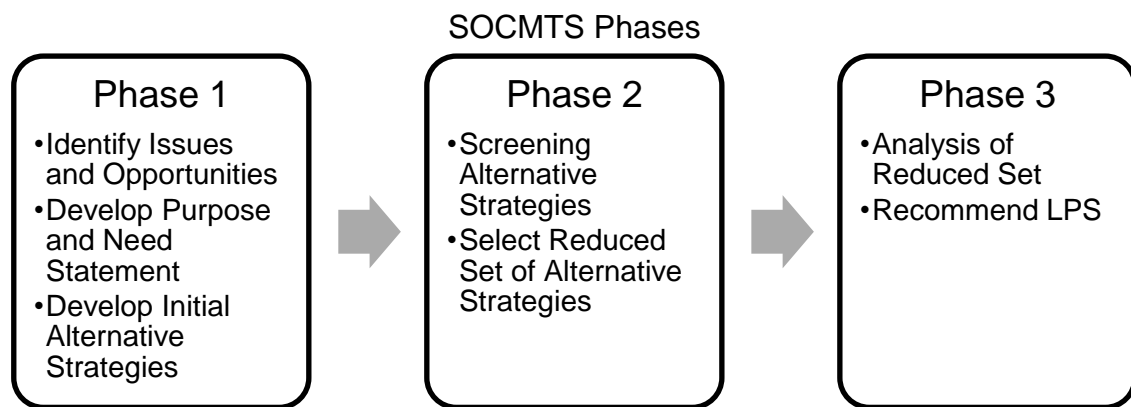
The Orange County Transportation Authority (OCTA) conducts planning studies to address the long-term transportation needs of Orange County. Multimodal transportation studies serve as the foundation of the long-range planning process by engaging stakeholders, providing focused analysis of corridor-specific transportation issues, and recommending a vision for the corridor or study area. This vision is often referred to as the locally preferred strategy (LPS).

Once an LPS is approved by the Board of Directors (Board), recommended improvements are considered for inclusion in the Long-Range Transportation Plan (LRTP) financially constrained project list. This project list is then submitted as input for the Regional Transportation Plan (RTP) developed by the Southern California Association of Governments (SCAG). Projects included in the RTP are then eligible to proceed through project-level development and can compete for state and federal funding.

Achieving consensus on a LPS involves local jurisdictions, transportation and environmental resource agencies, elected officials, residents, businesses, and other key community organizations in the study screening and decision-making processes. As such, these recommendations represent a locally supported vision for the study area's long-term transportation needs (Attachment A).

### **Discussion**

In August 2020, an item was provided to the Board on the South Orange County Multimodal Transportation Study (SOCMTS). The August 2020 item reviewed the study background, phasing, stakeholder and partner agency engagement approach, and study area transportation issues and opportunities. The current update primarily focuses on the Purpose and Need Statement and the initial alternative strategies, which mark the completion of the first study phase.



The Purpose and Need Statement summarizes the existing and future transportation challenges in the study area and the desired outcomes of the study. Therefore, it provides the basis for defining alternatives for consideration, comparing alternative strategies, and ultimately for selecting an LPS for south Orange County. This also provides a starting point in forming the evaluation measures used to screen alternative strategies in favor of more competitive options during the study process.

The following Purpose and Need Statement was informed by the technical analysis of the transportation system in the study area, and refined through stakeholder, partner agency, and public input, including:

- Four meetings of the Technical Working Group comprised of technical planning and public works staff from cities within the study area.
- Four meetings of the Transportation Agency Working Group comprised of staff from the California Department of Transportation (Caltrans),

the Transportation Corridor Agencies (TCA), SCAG, the San Diego Association of Governments, the Southern California Regional Rail Authority (Metrolink), the North County Transit District, the Federal Transit Administration, and the Federal Highway Administration.

- Individual agency meetings offered by OCTA and, to date, requested by Caltrans, Metrolink, TCA, and the cities of Dana Point, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, and Newport Beach.
- One key stakeholder roundtable, one elected official roundtable, and one public webinar.
- An online survey that was available in English, Spanish, Mandarin, Korean, Vietnamese, and through a project information phone line, also available in multiple languages. A total of 360 surveys were collected and the results can be viewed in Attachment B.
- The online survey and public webinar were promoted through a social media campaign, e-blasts, communications toolkit sent to cities and stakeholders, news release, and to members of the Citizens Advisory Committee, Special Needs Advisory Committee, and Diverse Community Leaders group. Postcards printed in English and Spanish were mailed to low-income and disadvantaged communities with Mandarin, Korean, and Vietnamese interpretation offered.

### Study Need

Long-term investments and strategies are needed to address the following transportation issues and opportunities in the study area:

- Historical land development patterns and transportation network that favor driving. The existing transportation network was largely developed to serve the auto-oriented access and circulation needs associated with the lower-density, single-family residential land-use patterns that comprise a substantial portion of south Orange County. As a result, travel by modes other than automobile is constrained. Traditional fixed-route transit is unable to provide convenient access to lower-density development areas. Despite a robust bikeway and sidewalk network, circulation by active transportation modes is challenging because of a circuitous road network and a land-use pattern that generally makes for lengthy distances between trip origins and destinations. Bicyclists and pedestrians also face potential safety concerns due to the lack of physical separation from motor vehicles often traveling at higher speeds and wide intersections with limited crossing times. In short, the auto-oriented land-use patterns and street network in south Orange County present challenges for providing efficient transit service, meeting the travel needs of non-auto owning people in the study area, and supporting safe travel conditions for all users.

- Growing travel demand on a constrained system. Many mainline segments of Interstate 5 and Interstate 405 through south Orange County consistently experience congestion on weekdays and weekends. This results in low travel-time reliability, with extra travel time needing to be budgeted to ensure on-time arrival during peak travel periods. The arterial street system depends heavily on east-west roads for both local circulation and freeway access. This results in reduced travel speeds and traffic congestion near freeway interchanges. Projected population and employment growth (with a nearly 20 percent increase by 2045) are expected to increase travel demand. If not effectively managed, this could worsen roadway congestion, increase travel times, and reduce travel speeds and reliability, particularly in areas where planned development is concentrated.
- Environmental and economic sustainability challenges. Vehicular emissions negatively affect air quality and contribute to climate change. These environmental impacts are anticipated to worsen as vehicle-miles traveled are projected to increase by 16 percent between 2016 and 2045, based on current trends. Risks like rising sea level and increased frequency and intensity of wildfires threaten the resiliency of the transportation network and its ability to serve the circulation needs of south Orange County in emergency situations. Traditional capacity expansion projects may impose unacceptable impacts on environmental resources like air and water quality, encroach upon biological or open space resources, or displace homes and businesses. Traditional capacity expansion projects can also be very expensive to build, operate, and maintain, which could result in impacts to the long-term financial viability of the system.
- Evolving travel behaviors in a rapidly changing world. There are significant uncertainties related to how emerging technology innovations and work conditions in a post-coronavirus (COVID-19) pandemic environment may affect transportation and mobility in south Orange County. Advancements in technologies, such as autonomous/connected-vehicle technology, high-speed electric vehicle charging, trip planning apps, and shared/micro-mobility could change travel behaviors and how traffic operates in south Orange County. Depending on the adoption rate, autonomous/connected vehicles could alter roadway capacities needed to sufficiently meet demand, as vehicles could travel safely at higher speeds with shorter following distances. Improvements in trip planning apps and shared/micro-mobility could enable south Orange County residents and visitors to make more informed choices about when, where, and how they travel. Increased levels of telework and telemedicine, and lingering COVID-19 threats could decrease travel overall, particularly via transit if people favor private vehicle options.

These types of uncertainties in emerging technologies and travel behavior will need to be recognized and accounted for in planning the future of south Orange County's transportation system.

### Study Purpose

Each study need identified above has several purpose components identified to address the transportation issues and opportunities. The Purpose and Need Statement will be used to develop and evaluate strategies and alternatives for the study.

Need	Purpose
Historical land development patterns and transportation network that favors driving	<ul style="list-style-type: none"><li>• Increase availability and convenience of using non-single occupant vehicle (SOV) modes</li><li>• Provide convenient connections between different travel modes</li><li>• Provide options that are competitive to driving</li><li>• Support travel alternatives that reduce SOV trip-making and trip lengths in coordination with land-use changes</li></ul>
Growing travel demand on a constrained system	<ul style="list-style-type: none"><li>• Reduce overall travel demand</li><li>• Enhance safety and efficiency of the existing transportation system</li><li>• Employ cost-effective strategies to better utilize available highway, managed lane, and arterial capacity</li></ul>
Environmental and economic sustainability challenges	<ul style="list-style-type: none"><li>• Support increased adoption of zero-emission vehicles</li><li>• Improve access to clean, affordable alternatives to private automobiles</li><li>• Improve transportation resilience to destructive natural forces and events</li><li>• Recommend improvements that minimize adverse environmental impacts and support economic development and community enhancement</li></ul>
Evolving travel behaviors in a rapidly changing world	<ul style="list-style-type: none"><li>• Adopt flexible recommendations to adapt to evolving circumstances and conditions</li><li>• Pursue improvements utilizing proven technologies</li><li>• Promote policies and improvements that support equity and innovation</li></ul>

### Initial Alternative Strategies

An initial set of alternative strategies will be evaluated as part of the SOCMTS. They are not intended to be cumulative and are not necessarily multimodal in nature at this point of the study. Reflecting the exploratory nature of these alternative strategies, they are labeled as scenarios. For the purposes of initial screening, the intent is to understand how the specific improvements and strategies identified within each scenario would affect travel in south Orange County and address the study's Purpose and Need Statement. The results of the initial screening will be used to create multimodal alternatives for more detailed evaluation in subsequent study tasks. The scenarios under evaluation include the following and are outlined in more detail in Attachment C.

- Maximize Rail and Transit
- Revise Roadway System Operations
- Eliminate Roadway Bottlenecks
- Repurpose Road Space - Enhance Transit/Active Transportation
- Demand Management - Support Tele-Everything
- Demand Management - Emphasize User Pricing and Managed Lanes
- Demand Management - Subsidize Mode Shift
- Maximize Emerging Technologies

During the next few months, OCTA will engage with the public, stakeholders, and partner agencies to review the performance of these alternative strategy scenarios. Based on the effectiveness in addressing the Purpose and Need Statement, the strategies will be combined into multimodal alternatives. Utilizing the Purpose and Need Statement, the recommended long-range alternative strategies will include improvements and policies that enhance travel choices, manage growing travel demand, address sustainability issues, and consider the implications of COVID-19 and possibilities of emerging technologies on mobility in the study area. The investments and policies will support convenient, competitive, and effective travel options beyond driving alone, will address the travel needs of disadvantaged communities and transit-dependent populations, and will be appropriate for implementation in south Orange County.

### **Summary**

OCTA is developing strategies to improve travel in south Orange County. Study progress is presented for Board review. Technical analysis, in conjunction with input from stakeholder engagement efforts, will guide the development of the alternative strategies and be brought to the Board for consideration later this year.

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***Attachments***


- A. South Orange County Multimodal Transportation Study Area
- B. South Orange County Multimodal Study, Public Involvement Program  
Phase 1: Summary of Survey Results, January 2021
- C. South Orange County Multimodal Transportation Study Initial Alternative  
Strategies

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