




June 6, 2022

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 information.

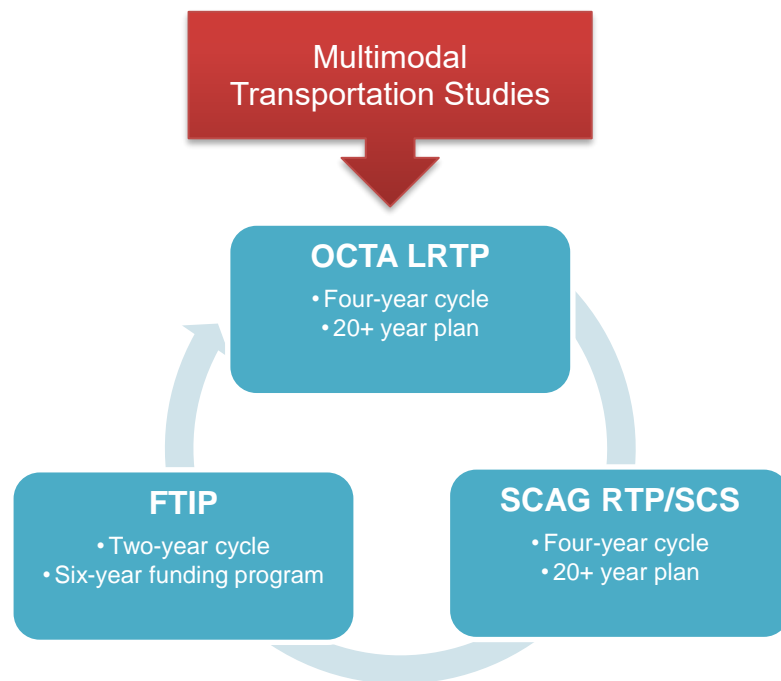
Recommendation

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 study area. This vision is often referred to as the locally preferred strategy (LPS).

Once a LPS is approved by the Board of Directors (Board), recommended improvements are considered for inclusion in the Long-Range Transportation Plan (LRTP) project list. This project list is then used as input for the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) developed by the Southern California Association of Governments (SCAG). Projects included in the RTP/SCS are then eligible to proceed through project-level development and can compete for state and federal funding and listing in the Federal Transportation Improvement Program (FTIP). This is summarized in the graphic on the following page.



Achieving consensus on an 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, the LPS recommendations represent a locally-supported vision for the study area's long-term transportation needs.

OCTA initiated a long-range multimodal transportation study for the south Orange County area in early 2020. In August 2020, February 2021, and September 2021, updates were provided to the Board on the South Orange County Multimodal Transportation Study (SOCMTS). The August 2020 item reviewed the study area (Attachment A), background, phasing, stakeholder and partner agency engagement approach, and study area transportation issues and opportunities. The February 2021 item reviewed the study Purpose and Need Statement (Attachment B) and the initial multimodal solutions. The September 2021 item addressed the initial screening of multimodal solutions and the development of a reduced set of multimodal solutions. The current update primarily focuses on the development of the multimodal vision alternatives.

Discussion

The study is being informed by the technical analysis of the transportation system in the study area, and refined through stakeholder, partner agency, and public input, as summarized below.

- Eight meetings (to date) of the Technical Working Group comprised of technical planning and public works staff from cities within the study area.

- Eight meetings (to date) 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 and held with Caltrans, Metrolink, TCA, and the cities of Dana Point, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, and Newport Beach.
- Two city council presentations (to date) to the cities of Lake Forest and San Clemente.
- Two presentations to the South Orange County Economic Coalition.
- Three key stakeholder roundtables, three elected official roundtables, two public webinars, two virtual meeting rooms, one telephone town hall, and three online surveys.
- The online surveys, public webinars, and telephone town hall were promoted through a social media campaign, e-blasts, communications toolkit sent to cities and stakeholders, news releases, and to members of the Citizens Advisory Committee, Accessible Transit 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 interpretations offered.
- The telephone town hall included up to 350 callers, which also included a Spanish simulcast.
- The three online surveys were available in English, Spanish, Mandarin, Korean, Vietnamese, and through a project information telephone helpline, also available in multiple languages. A total of 360 surveys were collected from the first online survey and the results were provided to the Board as part of the February 2021 item. The second online survey received more than 1,700 responses and the results were provided to the Board as part of the September 2021 item. The third online survey received more than 310 responses and can be viewed in Attachment C.

Multimodal Vision Alternatives

Two multimodal vision alternatives (alternatives) with different mixes of multimodal solutions from earlier study phases have been analyzed. However, at the core of both alternatives are OCTA's current capital improvement programs and Measure M2 (M2) (countywide sales tax program for transportation improvements). Both alternatives also assume implementation of three near-term south Orange County projects: the extension of Los Patronos Parkway as a non-tolled facility from Cow Camp Road to Avenida La Pata, widening and restriping of Ortega Highway between Calle Entradero and

Reata Road, and the southern extension of carpool lanes on Interstate 5 (I-5) from Avenida Pico to the San Diego County Line.

The assumptions for each of the multimodal solutions that comprise the multimodal vision alternatives are summarized below. These represent conceptual strategies being used to form the long-term vision for south Orange County. They are not intended as specific recommendations on locations, boundaries, or service levels. These details are anticipated to be developed in subsequent studies that will work to advance the strategies from the SOCMTS LPS vision to implementation.

- Roadway infrastructure and operational improvements: Assumptions for this multimodal solution include traffic signal synchronization, transportation systems management and operations, active traffic management strategies, intelligent transportation systems, and integrated corridor management. Such improvements would entail the installation of upgraded technologies and operational programs to improve efficiencies of the existing roadway system and accommodate evolving technologies including for connected and autonomous vehicles.

- Bottleneck improvements: This multimodal solution includes two potential projects intended to improve traffic flows on I-5, with one project through the City of Irvine and one project through the City of San Clemente. The first project would braid the southbound State Route 133 ramp to the southbound I-5 with the off-ramp to Alton Parkway from southbound I-5. The second project would add a truck climbing lane on northbound I-5 from Avenida Pico to Avenida Vaquero. Both projects were considered for inclusion based on the potential ability to add within the existing freeway right-of-way. Additional analysis, including coordination with the ongoing environmental analysis of the I-5 high-occupancy vehicle (HOV) lane project between Avenida Pico and the San Diego County Line, will be required to ensure that community impacts can be addressed. OCTA is also in the process of conducting a Freeway Chokepoint Improvement Study, which may identify additional or different bottleneck improvements in south Orange County. Future implementation efforts will refine freeway bottleneck improvements.

- HOV lane operations: Given current congestion levels identified in the HOV lane system countywide, operations may need to change to meet federal performance requirements. Consistent with the 2018 Long-Range Transportation Plan and for long-range planning purposes, it was assumed that Caltrans will consider converting degraded HOV2+ (minimum carpool occupancy of two persons) lanes to tolled express lanes (or HOT3+). Qualified carpools (HOV3+); minimum occupancy of three persons) would continue to ride for free and other drivers could access the lane by paying a toll when additional capacity is available. This

ensures reliable travel and increases average vehicle occupancy by encouraging carpooling and vanpooling while meeting federal performance standards. A phased approach would likely be taken for actual implementation based on more detailed studies, analyses, and public engagement of options along each corridor in the future.

- High-frequency transit: The assumptions for high-frequency transit are comprised of three components: Metrolink passenger rail, freeway bus rapid transit, and high-frequency OC Bus service. The Metrolink service levels assume additional rail capacity north of the Laguna Niguel/Mission Viejo Metrolink station with 30-minute all-day service north of the station and hourly service south of it. Two freeway bus rapid transit routes are assumed. The I-5 service would operate between the Fullerton Park-and-Ride and the Laguna Niguel/Mission Viejo Metrolink station. The State Route 55 corridor would operate between the Santa Ana Regional Transportation Center and Hoag Hospital. Both routes are assumed to operate on a 15-minute frequency. For OC Bus service, the Making Better Connections Study (the bus restructuring effort) will address near-term OC Bus service levels. To help establish the long-term vision, service enhancements were assumed for higher ridership OC Bus routes consistent with the high-frequency transit vision identified in OCTA's Transit Master Plan.
- Local circulators / shuttles: Regular and seasonal beach shuttle and trolley services have been successful in several South County communities. Therefore, the continuation of funding programs (M2 Project V) to cities and communities to operate circulators and shuttle services to meet local demands and to integrate with other multimodal solutions addressed herein was assumed.
- Micro-transit: Using demographic information and forecasted travel flow patterns, a series of potential micro-transit service areas were tested for establishing the long-term vision. Each potential micro-transit service area was compared to what is known about the success drivers behind the existing OC Flex service to determine the likely success of each area for potential micro-transit service. While support for micro-transit services like OC Flex or SC Rides is high, potential expansion of micro-transit service in south Orange County would likely need to occur in phases due to limited resources and technology constraints (e.g., vehicle automation, etc.). The assumptions for micro-transit service include the continuation of the existing Aliso Viejo-Laguna Niguel-Mission Viejo OC Flex service but otherwise, there is not a specific recommendation on locations, boundaries, or service levels. Future implementation efforts will define locations, service levels, and potential priorities.

- Mobility Hubs: Mobility hubs provide enhanced amenities for emerging mobility services and provide access to a variety of first and last mile travel modes. Assumptions for this multimodal solution include three mobility hub typologies: regional hubs located at transit centers and regional activity centers (such as high-density commercial centers), local hubs located at centers that are more typical of routine daily activities, and neighborhood hubs located at recreational areas and along active transportation pathways. The location and distribution of assumed mobility hubs of each type were based on linkages to the micro-transit service areas described above and the potential suite of first and last mile services at each location considering connecting transit service, infrastructure connectivity, and surrounding land-uses. OCTA is currently conducting a separate mobility hub study that will consider countywide implementation priorities. An update is planned for Board review in summer 2022.
- Active transportation: Using trip information from OCTA’s travel demand model, South County areas with high active transportation trip potential were identified for potential active transportation infrastructure enhancements. It was assumed that all trips under three miles are potential active transportation trips. Areas with greater shares of shorter trips (less than three miles) were assumed to receive enhanced active transportation investments, particularly if it increased access to micro-transit services and mobility hubs. The active transportation improvement network is assumed as a “slow streets network” with street capacity for active transportation and neighborhood electric vehicles. These traffic-calmed facilities may take multiple forms as local jurisdictions determine the exact design of these corridors and what is most appropriate for each community.
- Transportation Demand Management (TDM): Assumptions for the TDM measures include strategies applicable to south Orange County, such as support for telework (e.g., work-from-home), support for carpool/vanpool/schoolpool, and transit subsidies. The TDM measures considered are aimed at reducing roadway congestion and demand by redistributing trips to alternative modes of travel, times outside of the peak period, and/or along less congested travel routes.

Based on the Purpose and Need Statement, performance measures were developed to consider what a successful multimodal transportation system in south Orange County in the year 2045 would look like. Key performance measures include:

- Reducing delay or overall traffic congestion,
- Reducing greenhouse gas (GHG) emissions and improving air quality,
- Reducing the miles traveled by vehicle on a per capita basis, and
- Increasing the share of trips taken by carpool, transit, biking or walking versus driving alone.

Ongoing analysis of the multimodal vision alternatives (with the assumptions noted above) suggest that the alternatives meet and exceed targets for reducing delay and GHG and air pollutant emissions. Depending on assumptions included in the multimodal vision alternatives (e.g., level of TDM investments), some options meet and exceed the targets for vehicle miles traveled reduction while others are close to meeting the target. All alternatives evaluated to increase the share of trips taken by carpool, transit, walking, and bicycling. However, more (e.g., greater incentives, changes in trip origins and destinations, etc.) is needed to hit the target set for reducing the share of driving alone trips.

In addition to the performance measures noted above, an equity and cost effectiveness analysis are under development.

Next Steps

During the next few months, OCTA will engage with stakeholders and partner agencies to consider the final analysis on the multimodal vision alternatives as input into the development of the LPS. Consistent with the Purpose and Need Statement, these recommended long-range multimodal strategies will include improvements and policies that enhance travel choices, manage growing travel demand, address sustainability issues, and consider the implications of the coronavirus 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. It will also 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 and public engagement efforts, will guide the development of the LPS and be brought to the Board for consideration later this year.

Attachments

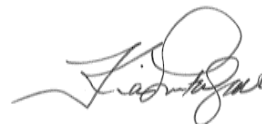
- A. South Orange County Multimodal Study Area
- B. South Orange County Multimodal Transportation Study Purpose and Need Statement
- C. South Orange County Multimodal Transportation Study, Public Involvement Program, Phase 3 Report

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