



Orange County
Transportation Authority

EXPRESS LANES NETWORK STUDY

Summary Report
December 2020

PREPARED BY
HNTB

Introduction

This report summarizes key findings and recommendations from the Express Lanes Network Study (Study) conducted by HNTB for the Orange County Transportation Authority (OCTA).

The OCTA 2018 Long-Range Transportation Plan Short-Term Action Plan recommended an Express Lanes Network Study to identify planning and policy positions in response to an initiative by the California Department of Transportation (Caltrans) District 12 to implement express lanes in Orange County. Caltrans and other practitioners, such as the Southern California Association of Governments, have increasingly considered conversion of (HOV) facilities to tolled express lanes as a potential solution for addressing federal performance standards. Federal law considers an HOV facility to be degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period. Tolled express lanes allow vehicles with three or more persons to use the express lanes for free. Remaining express lane capacity is then offered to non-HOVs through a price-managed system that ensures reliable travel speeds.

The purpose of this Study is to identify OCTA's preferred phasing priorities for future tolled express lanes implementation and to serve as a resource for the regional development of Orange County's tolled express lanes network. The project team employed an interactive and collaborative process during a one-year study that included interdivisional workshops with OCTA staff and a series of stakeholder interviews. In addition, the team prepared detailed technical memorandums on mobility metrics, traffic and revenue analysis, financial feasibility and evaluation criteria, all of which are available under separate cover. These technical memorandums analyzed five network Concepts to ultimately identify and recommend a Phase 1 Express Lanes Network (P1-ELN) that could potentially be implemented by 2030.

It should be noted that the mobility and financial analysis conducted for this evaluation was performed prior to the COVID-19 pandemic. The underlying traffic volumes utilize historic traffic at 2019 levels and do not account for any shifts in commuter patterns and traffic decreases as a result of COVID-19. Based on recent research studies conducted to understand the short-term and long-term effects of the COVID-19 pandemic on traffic, it is expected that in the long-term the traffic congestion is expected to return to pre-COVID-19 levels. Future analysis is required to understand and forecast traffic volumes and patterns as the economy recovers from current pandemic.

Goals and Objectives

OCTA defined goals and objectives, shown in **Table 1**, to help identify facilities that may be appropriate for the OCTA Board of Directors to consider operating as tolled express lanes. The goals and objectives were considered in this Study and will be considered in potential subsequent express lane studies.

Table 1 - Goals and Objectives

GOAL	OBJECTIVE
1. Identify opportunity corridors	<ul style="list-style-type: none"> Identify high-demand commute sheds Identify available capacity Leverage existing and planned express lanes Consider useful life of local tax measure projects
2. Improve corridor operations and reliability	<ul style="list-style-type: none"> Reduce corridor daily delay from congestion Improve mainline peak period speeds Maintain free-flow speeds in express lanes Identify benefits to adjacent facilities
3. Ensure financial feasibility and corridor maintenance	<ul style="list-style-type: none"> Demonstrate that revenues cover annual debt payments, financing requirements, and operations and maintenance costs Identify potential for excess revenues (subsequent studies to determine strategies for reinvestment in the transportation system)
4. Support local and regional goals	<ul style="list-style-type: none"> Support community and economic development goals Address social equity/environmental justice Improve air quality and reduce greenhouse gas emissions

Recommended Phase 1 Express Lanes Network (P1-ELN)

The P1-ELN includes the following segments, as illustrated in **Figure 1**:

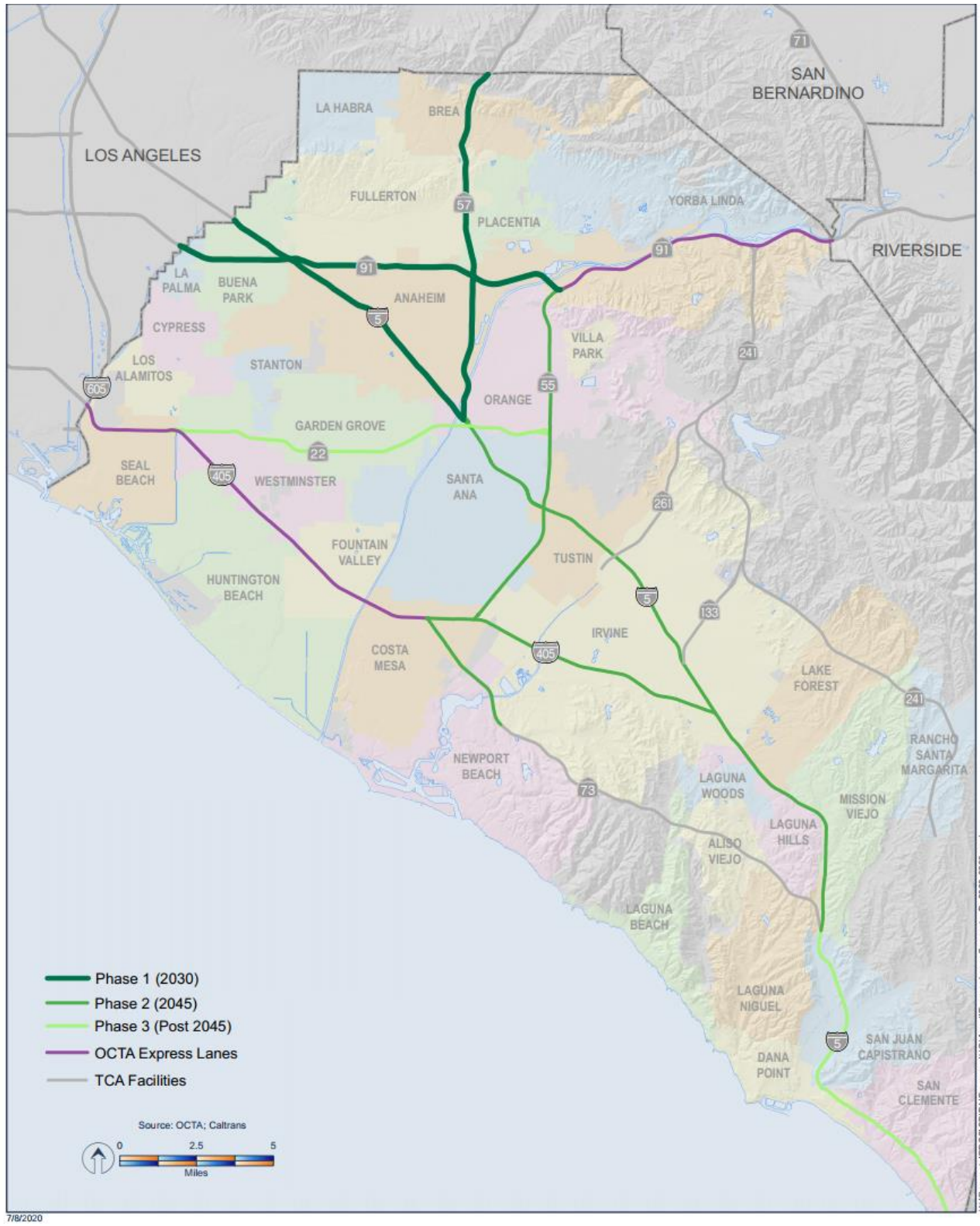
- Interstate 5 (I-5) from State Route 57 (SR-57) to LA County Line – HOT 3+
- SR-57 from I-5 to LA County Line – HOT 3+
- State Route 91 (SR-91) from State Route 55 (SR-55) to LA County Line – HOT 3+ (extension of existing 18-mile 91 Express Lanes that exist between SR-55/SR-91 interchange and the SR-91/Interstate 15 interchange)

The P1-ELN is the network that best addresses OCTA's goals and objectives for considering conversion to tolled express lanes. The network includes facilities that serve many intercounty commute trips to and from Orange County employers. Additionally, the identified I-5 and SR-91 segments are consistent with the Caltrans 15-year plan¹ and the P1-ELN would provide timely conversions to connect with LA Metro's Tier II plans² for express lanes on I-5, SR-91, and SR-57.

¹ "Orange County Managed Lanes Network Study: Summary of Findings and Implementation Plan" by the California Department of Transportation District 12, dated September 2016

² "Countywide ExpressLanes Strategic Plan" by Los Angeles County Metropolitan Transportation Authority, dated January 2017

Figure 1 - Recommended Express Lanes Network Phasing



Benefits of the Phase 1 Express Lanes Network

While additional analysis is needed to understand how well the P1-ELN addresses the full set of goals and objectives, the following summarizes the benefits of the P1-ELN identified through this Study:

- The P1-ELN **provides a high level of mobility benefits** and congestion relief, **supports local and regional goals**, and **addresses the most miles of current and anticipated degraded HOV lanes** (Goals 1, 2, and 4).
 - The Express Lanes can operate with free-flow speeds – the average modeled speed during peak period is 54 miles per hour. This is well above federal performance standards. P1-ELN has the potential to resolve approximately 62 degraded lane miles.
 - Express Lane users would see a travel time savings of approximately 12 minutes on the I-5 segment of the P1-ELN, 17 minutes on SR-57, and 15 minutes on SR-91.
 - Express Lanes allow for users who do not meet the HOV 3+ occupancy requirement to pay a fee to use the Express Lanes. For the P1-ELN corridors, this may increase the general-purpose lanes speeds by an average of 2.5 mph and increase daily person throughput by approximately 30,000.
 - Express Lane users can take advantage of existing infrastructure such as HOV direct connectors on SR-91/I-5 and SR-57/SR-91 and HOV direct access ramps on Grand Avenue, Gene Autry Way, Disneyland Drive, and Disneyland Way. These connections would reduce weaving and could provide additional time savings and improve safety.
 - Because it improves intra and inter-regional mobility and increases efficiency in the movement of people, goods, and services, the P1-ELN supports the local and regional economies and supports improved air quality and the reduction of greenhouse gases.
- Focusing express lanes phasing on intercounty commutes will provide **more reliable access to Orange County jobs**. Approximately 657,000 people commute into Orange County to work each day, compared with 490,000 residents who commute to work outside of Orange County. Commutes into Orange County are projected to increase 25% by 2040.
- Including facilities that also traverse Los Angeles **allows OCTA and LA Metro to coordinate the implementation of express lanes** on the SR-91, I-5, and SR-57 to provide a seamless user experience. Interagency coordination may allow for conformity in policy and operations, as well as maximum efficiency in project design, construction, and delivery.
- The P1-ELN **does not propose near-term conversion of M2 HOV projects to Express Lanes**. Considerations to convert such segments should be avoided during the initial 20 years of operation unless the segment becomes degraded and conversion is directed by the OCTA Board of Directors (Goal 1).
- The analysis indicates that the P1-ELN is **financially viable**, meaning that it can cover annual debt payments, financing requirements, and operations and maintenance costs. Furthermore, P1-ELN may produce excess revenues for reinvestment in the transportation system (Goal 3).

Stakeholder Interviews

As part of the study process, OCTA identified and interviewed 10 Orange County thought leaders and stakeholders. The primary objective was to determine reception and support for Express Lanes implementation in Orange County. The key component of outreach was the one-on-one meetings between high-profile thought leaders and the OCTA Chief Executive Officer (CEO) and agency staff. Feedback was also provided by OCTA's Citizens Advisory Committee, which represents local constituencies and community groups and actively participates in helping examine traffic solutions.

Additional planned outreach activities were to take place in spring 2020; however, due to the COVID-19 pandemic, activities such as elected officials and stakeholder workshops were postponed. While the target audience for this conceptual, high-level study focused on thought leaders and stakeholder representatives, the general public is also a vital audience who will be included throughout the public involvement process during future study phases.

The input from all stakeholders has been critical in the study's evaluations. Following is the list of the thought leaders that were interviewed:

- Angels Baseball: President
- AAA: Government Affairs Manager and Transportation Policy and Programs Manager
- Camino Enterprises: President
- Care Ambulance Service: Division Manager and Director of Government Affairs & Business Development
- Hop Skip Drive: Vice President of Strategic Development
- The Irvine Company: Vice President of Transportation and Vice President of Government Affairs
- Lynch EMS: CEO
- M2 Environmental Coalition: Lead Representative
- Rancho Mission Viejo: Senior Vice President of Government Relations
- UPS: Vice President of State Government Relations

Below is a summary of key points by industry category from the one-on-one thought leader meetings:

Emergency Services

- Overall goal is to respond to calls as quickly and efficiently as possible
- Heavy traffic is a burden to patients and first responders. Interest in toll and express lanes design and operations for access
- Supportive of express lanes as a more reliable option. Concerns about potential freeway chokepoints being created

Real Estate Development

- OCTA should focus on innovation, technology, and out of the box thinking
- Supportive of the express lanes study
- Cited a need to be transparent and to educate the public; the perception is the roads are already paid for so prepare for concerns

Shipping Industry

- More access points into express lanes is an essential need
- Main goal is efficiency, easy access to freeways from distribution centers, warehouses, and shipping hubs, and from freeways into express lanes
- Supportive of toll lanes but only if no regular lanes are lost in the process

Demand Transportation Services

- Strategic messaging and public education/involvement will be important in express lanes development

- Open to the idea of transforming HOV lanes into express lanes but not by removing regular lanes
- Concerns about cost of implementing toll roads, tolls themselves, and availability of access points

Entertainment/Sports

- Sporting events often take place at times when fans who wish to attend games are traveling during peak traffic hours
- Willingness to coordinate with OCTA on public service messaging and provide data on traffic flow into and out of Anaheim
- Supportive of continuing open dialogue with OCTA as plans and development around Platinum Triangle unfold

Environmental Community

- Would like to see more transportation options in Orange County, similar to the Bay Area, including elevated transit on freeways to improve mobility
- Stressed the importance of private sector partnerships, especially with land use entities and collaboration with local communities
- Not opposed to use of carpool lanes as HOT lanes to promote efficiency, but environmental justice issues could arise from permitting solo drivers to use HOV lanes for a fee

Conclusion and Next Steps

The Phase 1 Express Lanes Network (P1-ELN) is intended to support coordination efforts with Caltrans and LA Metro on their ongoing express lane activities and to put OCTA in position to advance express lanes in Orange County, if so desired. The P1-ELN was selected because it supports OCTA's express lanes goals and demonstrates merits for enhancing mobility, achieving financial viability, utilizing existing managed lane connectors and ramps, increasing opportunities for coordination, and minimizing conflicts with M2 funded projects.

While the level of analysis conducted for the Express Lanes Network Study may be sufficient to recommend proceeding to the next steps in the process, it does not represent a commitment to implementing any express lanes. From an agency policy standpoint, the OCTA Board of Directors will need to weigh-in on whether OCTA should proceed on to the next step, which includes additional analysis. Ultimately, the Board would need to approve implementation of any specific project or projects. In addition, since Caltrans is the owner and operator of the state highway system (SHS), Caltrans must approve any projects proposed on the SHS.

The next step would be to develop a Project Initiation Document (PID) for one or more of the P1-ELN facilities. The PID will define a purpose and need statement, develop and analyze a range of viable alternatives, and estimate the level of effort necessary to proceed to the Project Approval and Environmental Document (PA/ED) phase. The alternatives analysis prepared as part of the PID process will provide a cost range for various alternatives analyzed, initial design configurations, and financial performance. Alternatives that meet the purpose and need of the project would be recommended for more detailed study through the PA/ED phase. The PA/ED phase will include more robust stakeholders' involvement and transparency prior to a preferred alternative recommendation. If a locally preferred alternative is approved by the OCTA Board of Directors and concurred to by Caltrans, OCTA can then seek legislative action for tolling authority from the State prior to initiating design and construction. Traffic and revenue studies will be undertaken to determine the viability of the alternatives analyzed. The traffic and revenue studies may also be used to seek external funding sources.