

LIGHT RAIL: IS ORANGE COUNTY ON THE RIGHT TRACK?



GRAND JURY 2015-2016

Table of Contents

EXECUTIVE SUMMARY	3
BACKGROUND	4
Light Rail Defined	4
Light Rail in Southern California.....	4
Los Angeles County’s Metro Rail System.....	6
South San Diego County and the San Diego Trolley	6
North San Diego County and the Sprinter Light Rail System.....	7
Prior Grand Jury Reports on Light Rail Development in Orange County	7
Scope and Focus of This Report	8
METHODOLOGY	9
INVESTIGATION AND ANALYSIS	9
Orange County and Light Rail Development, Analysis and Political Reality	9
Orange County and Light Rail Development, a Change in Leadership and Focus.....	12
Return on Investment Expectations	13
The OC Streetcar Project Connecting Santa Ana and Garden Grove	16
The City of Anaheim and the Anaheim Rapid Connection (ARC) Project.....	18
The City of Fullerton’s Efforts to Study Use of Light Rail	21
COMMENDATIONS	23
FINDINGS	23
RECOMMENDATIONS.....	24
REQUIRED RESPONSES.....	25
WORKS CITED.....	27
WORKS CONSULTED	29
APPENDICES	31
Appendix A: Glossary	31
Appendix B: Transit Options, Metrics Analysis by Selected City	33
Appendix C: Continuity References	37

EXECUTIVE SUMMARY

From the end of World War II until 2003 there was little interest in Orange County for any kind of light rail system that could link high density cities with other rail services, or even with each other. The old Pacific Electric (PE) light rail system which had linked Los Angeles with Orange County cities and with Riverside since early 1900 had been replaced by automobiles and buses.

Although Orange County had experienced the same traffic congestion and smog problems as the rest of Southern California, city and county managers expressed little interest in finding options for mass transportation beyond buses or local commuter rail. In contrast, both San Diego and Los Angeles Counties initiated master plans for transportation in the early 1980s and immediately started building second-generation light rail networks. These networks have been largely successful in helping to reduce traffic congestion and smog by reducing the number of automobiles on the roads.

The Centerline Project, conceived in the late 1990s by the then new Orange County Transportation Authority (OCTA) was an initial effort to introduce light rail to Orange County along with upgrades in road and bus capability. However, the twenty-eight mile rail component alone was estimated to cost just over \$1 billion and this, as well as the size of the project kept funding sources and political support at bay.

Now, since 2006, OCTA has been using its authority, funding access, planning, and management capabilities to create a more measured process for development of light rail and other transit extensions that link county Metrolink Rail Transportation Centers with light rail and other transit extensions.

In this report the Grand Jury has examined OCTA's work with respect to the OC Streetcar Project and the Anaheim Rapid Connection (ARC) Project, as well as complimentary efforts by the cities of Santa Ana, Garden Grove, Anaheim and Fullerton. The Grand Jury found that initial successes such as the OC Streetcar Project between Santa Ana and Garden Grove are significant, both for educating the public and for providing future project momentum.

Therefore, the Grand Jury has recommended that OCTA take a number of steps to educate the public through public outreach and marketing/promotion, to establish a draft transportation master plan which includes both intra and inter county light rail network possibilities. Finally, the Grand Jury finds that similar public outreach efforts by the cities that are part of this report are worthwhile and a number of recommendations follow.

The efforts documented show all are truly interested in supporting the public good and the incremental and disciplined approach being used by OCTA to develop light rail systems is placing Orange County on the right track.

BACKGROUND

Light Rail Defined

While the focus of this Grand Jury report is the potential for development and use of light rail systems in Orange County, definition of the more common types of rail systems is important in order to better differentiate light rail. Short definitions are provided below and in some cases a more complete definition can be found in the Glossary.

Light rail systems are electric powered rail-based systems found in urban environments and used to provide passenger transit from transportation centers to working, shopping, and entertainment centers or to their homes. Light rail systems may be called streetcars, cable-cars or heritage streetcars depending on their age and urban location and typically do not exceed three cars in any particular application. An example of this is the OC Streetcar System being developed to connect Santa Ana and Garden Grove (Light Rail in the United States, 1).

Same-grade or fixed guideway rail systems run at street level, sharing the same corridors with automobile traffic. While this normally avoids the expense of bridges and underpasses to separate rail from other traffic, it does require extensive planning and right of way control measures.

Grade-separated rail systems, such as commuter rail or heavy rail, are normally separated from other traffic by dedicated right of way, bridges or underpasses.

Heavy rail systems are defined by the American Public Transportation Association as high speed electric powered railways able to handle heavier passenger loads than light rail systems, but distinct from commuter rail and intercity rail systems. An example of Heavy Rail is the Amtrak System (Passenger, 5).

Commuter rail systems are defined by purpose and may use the same rail corridors as heavy rail. Commuter rail services are designed and scheduled to allow rapid commuter passenger transit from transportation center to transportation center and are generally scheduled to support riders going to and from their jobs or to major sporting events. Examples of commuter rail are the Metrolink system that services Orange, Riverside and Los Angeles Counties and the Coaster system that services San Diego and Oceanside, CA.

Light Rail in Southern California

Use of light rail in Southern California has transitioned through several cycles in the past 115 years.

In the early 1900s, growth of first generation light rail in Southern California paralleled population growth in urban centers. The public wanted convenient and inexpensive mass transit that was able to carry passengers more efficiently than early automobiles or horse and buggy. The first successful light rail venture in Southern California was the Pacific Electric (PE) Railroad Company which began construction of electric rail lines connecting the City of Los Angeles with surrounding cities in 1901.

This PE Red Car system served several districts with a Northern branch reaching into the San Gabriel Valley, a Western branch to Venice, and a Southern branch to Long Beach, Newport Beach, Huntington Beach and Santa Ana. By 1915, PE was the largest operator of interurban electric railway passenger service in the world, with 2,160 daily trains over 1,000 miles of track.

A phase-out of the PE System began in 1930 and continued until after World War II with light rail giving way to the popularity of automobiles as a primary means of transportation. Light rail impeded automobile traffic in urban areas, and the Eisenhower era emphasis on freeway construction soon replaced historic PE light rail routes.

Presently, much of the old PE Right of Way (ROW) has been re-used or “built out.” ROW that does still exist include a 100 foot-wide diagonal corridor half way between Interstate 405 and Interstate 5 and an 11.75 mile section running between the cities of Santa Ana in Orange County and La Palma in Los Angeles County. OCTA has purchased sections between the cities of Stanton and Santa Ana and some of this has been leased to provide maintenance revenue.

During the 1970s, increasing air quality concerns as well as urban population growth and the 1973 oil crisis spurred yet another cycle of light rail development. Los Angeles and San Diego County planners began to give serious consideration to mass transit systems that could support high density, urban areas without further crowding roads and freeways or increasing smog. As a result of this planning, these counties began construction of a number of second-generation light rail systems during the 1980s (Pacific Electric 2-9).

Second-generation light rail is an industry term applied to current efforts to create and use light rail in Southern California as well as the remainder of the United States. These systems began in San Diego in 1981 with the San Diego Trolley, followed by Los Angeles County in 1985 with the Metro System.

Now, according to the American Public Transportation Association, of the 30-odd cities with light rail in the United States, six of them (Boston, Los Angeles, Philadelphia, Portland [Oregon], San Diego, and San Francisco) move more than 30 million passengers each year (Light Rail in the United States, 1).

Los Angeles County's Metro Rail System

During the 1970s, Los Angeles County was ready to begin serious consideration of more environmentally friendly mass transit systems for high density urban areas without adding to crowded roads and freeways.

The Los Angeles public approved use of sales tax proceeds, as well as other funding, to support creation of additional rail transit capability. In 1985 the Los Angeles County Metropolitan Transportation Authority began construction of a Metro Rail System combining light rail and heavy rail systems. In many cases these light rail ROWs followed the old PE Red Car ROW.

Since 1985, Los Angeles County has expanded the light rail portion of its Metro Rail System to approximately 79 miles. For example, as of January 2014 the Blue Line travels from the Los Angeles financial district to downtown Long Beach, and the Gold Line links East Los Angeles to Pasadena. As noted in a July 14, 2015 article from the *Los Angeles Times*, "...the Blue Line, which turns 25 this week, eclipsed ridership benchmarks to become one of the most heavily traveled light-rail lines in the United States."

In addition, in 2003 the Metropolitan Transportation Authority authorized an independent agency, the Exposition Metro Line Construction Authority (EMLCA), to plan, design and construct a light rail line called the Expo Line to run from downtown Los Angeles to Culver City and then eventually to Santa Monica. The Expo Line is still under construction. When it is completed, the EMLCA will transfer Expo Line operation and management to the Los Angeles County Metropolitan Transportation Authority (Expo Line, 1).

South San Diego County and the San Diego Trolley

While the City of San Diego had enjoyed electric rail service as early as 1891, changes in mass transit mirrored those occurring in Los Angeles County. By 1949, the city of San Diego replaced its streetcar system with buses. Then in 1966, with San Diego Transit losing money, a San Diego Comprehensive Planning Organization (CPO) began to search for more economic options to meet longer term transit needs. Although the CPO had realized that some options might not be as cost effective or flexible as buses, it decided to study solutions that included a same-grade light rail system. Subsequently, the San Diego Metropolitan Transit Development Board (MTDB) determined that a same-grade system could best satisfy the following requirements:

- Any proposed corridor extend a long distance and offer high-speed operation;
- Low capital cost designs be adopted to keep costs affordable;
- Construction should be at-grade with mostly exclusive right-of-way; and
- Operating deficits should be minimized.

With funding due to expire by 1981, the MTDB moved to purchase the partially damaged San Diego and Arizona Eastern Railway (SD&AE) ROW that included freight capability east into the Imperial Valley as well as sufficient ROW to support an initial 13.5 miles of light rail. This light rail system is the oldest of the second generation light rail systems in the United States (San Diego Trolley 1).

In the past 25 years the San Diego Trolley has grown to include three main lines offering regular service from 5:00 AM to midnight seven days a week. The system now extends to 53.5 miles with 53 stations. Between 2:00 AM and 3:30 AM each day the trolley right of way is used by the San Diego and Imperial Valley Railway only to move freight (San Diego Metropolitan, 1-7).

The greater San Diego Metropolitan trolley system now links the downtown Santa Fe Depot with the San Diego Convention Center, Petco Park, the Mexican border, Qualcomm Stadium, major San Diego universities and Old Town San Diego, as well as other cultural and population centers within San Diego County. The Santa Fe Depot is also the southern terminal for Amtrak and Coaster train service. The average daily trolley ridership in 2014 was 119,800 passengers and the annual ridership number approximated 39.7 million passengers. An extension of 156 new miles is being proposed in the 2050 Regional Transportation Plan (San Diego Trolley, 7).

Members of the Grand Jury visited San Diego, rode the San Diego Trolley, and observed the pride exhibited by the San Diego public in their light rail system.

North San Diego County and the Sprinter Light Rail System

The Sprinter light rail system is an East/West oriented diesel powered system in north San Diego County linking the Oceanside Transportation Center to the Escondido Transportation Center. Owned and operated by the North County Transit District (NCTD), Sprinter runs for 22 miles and has 15 stations that include Palomar College and California State College, San Marcos. Daily ridership in 2013 was 8,500. Funding justification for Sprinter was partially based on the goal of reducing traffic congestion on California State Road 76 which also runs from Oceanside to Escondido. The transit extension service provided by Sprinter to Oceanside links passenger service with the Coaster, the Metrolink Orange County Line, the Metrolink Inland Empire-Orange County Line and the Amtrak Pacific Surf liner regional line (Sprinter, 1-6).

Prior Grand Jury Reports on Light Rail Development in Orange County

No Grand Jury has reported on development of light rail systems in Orange County. The 2009-2010 Orange County Grand Jury did, however, investigate the City of Santa Ana's decision making process when it chose Cordoba Corporation as the lead consultant for a technical analysis of Santa Ana's portion of OCTA's "Go Local" Phase II project, a precursor to the OC Streetcar Project (Santa Ana Streetcar, 1- 10).

“Go Local” was an OCTA initiative seeking to work with all 34 Orange County cities to find ways to increase Metrolink ridership by creating better connections between Metrolink Transportation Centers, these cities and employment centers. The City of Santa Ana was active in this pursuit and issued a Request for Proposal (RFP) for a feasibility study. During this process Cordoba was rated as least qualified among all applicants yet still won the contract to receive 75% of the initial \$4.85 million allocated by OCTA.

That 2009-2010 Grand Jury report suggested possible violations of Assembly Bill 1234, defining ethics law principles and conflicts of interest for public servants, and the Brown Act, which was enacted to facilitate public participation in local government decisions.

Scope and Focus of This Report

This report provides a brief history of the growth and decline of light rail in Southern California during the 20th Century. It also recaps some of the economic, smog and policy concerns that supported development of second generation light rail systems in both Los Angeles and San Diego Counties. It provides a baseline and comparison for investigation and analysis of second generation light rail development, or lack thereof, in Orange County.

The Grand Jury then examines and analyzes efforts by OCTA and the cities of Santa Ana, Garden Grove, Anaheim and Fullerton to advance, or consider advancing light rail as a preferred transit option. These are Orange County cities with Metrolink Stations, or transit links with Metrolink Stations, that have become actively engaged with OCTA’s goal to expand Metrolink ridership. Each city, through OCTA’s leadership, has the opportunity to use Orange County Tax Measure M2-Project S funding as well as the U.S. Department of Transportation’s New Starts grant money and other federal, state and local funds to establish light rail systems they believe will effectively increase ridership and provide economic development.

The Grand Jury chose to focus on these four Orange County cities based on current project activity, as well as OCTA recommendations. Each city represents a different set of public policy and economic circumstances which make light rail system development important for them to consider. As such, each city is on a pathway to obtain public and OCTA support, complete initial feasibility and environmental impact studies, and receive Department of Transportation and California State funding.

Appendix B compares light rail development status of each of these cities using a number of metrics that not only show the complexity of each project, but also provide a sense of funding, policy decisions and long timelines required from start to finish. As provided in the Appendix, this data also provides a continuum of Orange County cities ranging from well into a light rail project, to one still working to meet New Starts and OCTA criteria, to one that is still considering light rail as a preferred transit option.

The Grand Jury recognizes that each Orange County city already involved in a light rail project views light rail not only as an important transit option for their city, but also as a potential catalyst for economic growth. The Grand Jury also recognizes the City of Fullerton city council has not yet made a policy decision to pursue light rail as its preferred transit option for the future. However, the fact that funding for a light rail system option can be spread over a large number of financing sources makes that possibility very attractive.

Finally, this report provides some insight into economic development and return on investment (ROI) concepts that could impact all of Orange County if development of light rail systems can be incrementally and successfully pursued.

METHODOLOGY

The Grand Jury has taken the following actions to complete this report:

- Reviewed San Diego and Los Angeles County second-generation light rail systems;
- Examined the role of OCTA in leading development of light rail in Orange County and in working with the Federal Transportation Authority to obtain New Starts Grant funding;
- Briefly examined ROI expectations that can accompany light rail development;
- Interviewed OCTA, Santa Ana and Garden Grove senior staff involved in development and management of the OC Streetcar Project;
- Interviewed Anaheim senior staff involved in the Anaheim Rapid Connection (ARC);
- Interviewed Fullerton senior staff concerning prior studies for use of light rail in Fullerton; and
- Verified report facts through multiple interviews, cited references and official documentation.

INVESTIGATION AND ANALYSIS

Orange County and Light Rail Development, Analysis and Political Reality

Until 2005, efforts to develop second-generation light rail in Orange County in parallel with Los Angeles and San Diego counties had not been very successful.

Despite major changes in policy and sales tax use in both Los Angeles and San Diego counties over the past 25 years, Orange County has chosen not to follow suit. Even after public approval

of the M2 one-half cent sales tax in 2006, which provided some limited funding in support of alternate public transit systems such as light rail, seventy-five percent of that Orange County sales surtax remained focused on roads and highways. As a result, while urban growth gridlocked road and freeway systems, and smog concerns affected Orange County as much as Los Angeles and San Diego counties, efforts to reduce traffic congestion by widening roads and freeways, or sequencing traffic lights seemed to take priority.

Secondly a good portion of south Orange County views itself as not representative of any high density, urban community. As such, this population has not been overly interested in funding transportation options such as light rail systems that may be of more value to older North Orange County cities with higher population densities. These differences often make it difficult to get agreement about how to spend taxpayer dollars in a manner that will support specific city initiatives perceived to be in the public’s best interest.

The reality is that there are 34 incorporated cities in Orange County, each with differing levels of need and support for transit. Additional considerations include variances in city age, infrastructure and tax base, public planning policy and efforts, and ability to accommodate change. Some OCTA staff have opined that many residents of Orange County cling to a more nostalgic view of Orange County as a quiet suburban bedroom community that is best served by cars, buses, roads and freeways. Some suggest that this nostalgic view may have contributed to the lack of the county’s progress towards light rail and, as in retrospect; policy decisions may appear short-sighted.

To further investigate why light rail development has proceeded much slower in Orange County than in Los Angeles and San Diego Counties, the Grand Jury reviewed 2010 US Census data for these counties, as well as a number of selected cities.

Table 1 below provides selected data:

Table 1: Los Angeles, Orange and San Diego County Comparative Demographics.

County Comparisons:	Orange County	Los Angeles County	San Diego County	
2010 Population:	3,010,232	9,818,605	3,095,313	
Land Size in Square Miles:	791	4,058	4,207	
Density (Pop.(1000)/sq.mi.)	3,807	2,420	736	
Orange County Cities:	Santa Ana	Garden Grove	Anaheim	Fullerton
2010 Population:	324,528	170,253	336,264	135,161
Land Size in Square Miles:	27	18	50	22
Density (Pop.(1000)/sq.mi.)	11,901	9,570	6,748	6,047
Meets Urban Core City Definition:	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)	No	No

Light Rail: Is Orange County on the Right Track?

Los Angeles County Cities:	Los Angeles	E. Los Angeles (1)	Santa Monica	Long Beach
2010 Population:	2,504,251	501,237	89,736	569,100
Land Size in Square Miles:	267	41	8	63
Density (Pop.(1000)/sq.mi.)	9,388	12,168	10,664	8,984
Meets Urban Core City Definition:	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)
(1) Part of the City of Los Angeles but separated out by US Census Data.)				
San Diego County Cities:	San Diego	Carlsbad	Oceanside	
2010 Population:	2,259,401	105,459	167,086	
Land Size in Square Miles:	696	38	41	
Density (Pop.(1000)/sq.mi.)	3,245	2792	2,792	
Meets Urban Core City Definition:	No	No	No	
State and County Quickfacts. Quickfacts.census.gov.2010. Web. 11 Jan. 2016.				

The data show that the population density of portions of Los Angeles and Orange Counties approaches or exceeds 7,500 residents per square mile, meeting the industry definition of urban, core city (*Urban Cores*). This is not the case in San Diego County, particularly the City of San Diego which has a population density of approximately 3,245 residents per square mile.

The Grand Jury also noted that the land size of Los Angeles and San Diego Counties in square miles is similar, and that these counties are over five times the size of Orange County.

The Orange County cities selected by the Grand Jury for census data comparison match those selected for report analysis. The San Diego County cities selected for data analysis were San Diego and Oceanside, and the Los Angeles city choices were Santa Monica and Long Beach, along the Metro’s most successful Blue Line, running from downtown LA to Long Beach.

Similarities in population core densities exist between much of greater Los Angeles and north Orange County. Population demographics and city infrastructure age and tax base issues for these areas are also similar. Analysis of south Orange County as it morphs into greater San Diego County shows a trend toward lower population density, as well as newer city infrastructure.

In short, the Grand Jury finds evidence suggestive that there is no demographic answer as to why light rail system development is more readily supported in both Los Angeles and San Diego Counties than in Orange County.

Perhaps the best clues to the lack of support for light rail development in Orange County may simply rest with the diversity of cities within the county and the fact that Orange County has done little to effectively market a light rail concept. Until OCTA was created no single entity in Orange County had sufficient gravitas and motivation to initiate such a concept. This was not the case in Los Angeles and San Diego, both of which had a long history and understanding of light rail systems, as well as multiple city interests in making such a system work.

Although California state law created OCTA to serve as the public sector transportation planning body and mass transit service provider for Orange County (Orange County Transportation 1), this did not immediately facilitate county-wide transportation planning.

An example is the 1990s OCTA initiative to create a 28 mile Centerline Project linking several North Orange County high density cities with the Orange County Airport. As presented by OCTA, the \$1.04 billion light rail component of this project was accompanied by an additional \$185 million street widening component as well as an additional \$544 million bus service expansion component. (Mallinckrodt, 1-2)

The case might be made that planners were trying to present a balanced concept, but public reaction to the size and cost of the project was not positive and some analysis even suggested there would be no net reduction in traffic congestion or improvement in person-miles/day capacity. As a result, the scope of the project was changed to reduce estimated costs (Mallinckrodt, 1-2).

While local officials had hoped that the Federal Government would step in and pay for half of the proposed project's expense, the county's congressional delegation provided no support and this, along with the loss of local political confidence, resulted in the project being dropped in 2005 (Weikel, 2).

Orange County and Light Rail Development, a Change in Leadership and Focus

In 2006 OCTA decided to follow a more measured approach to planning, which included possible use of a light rail system as an alternate for mass transportation. The "Go Local" program was created. "Go Local" was a four step process for planning and implementing city-initiated transit extensions to OCTA's Metrolink commuter rail line. Steps one and two were funded via Measure M1.

Step one required each city to submit to OCTA a fixed-guideway concept proposing connection between a Metrolink station in that city and nearby destination/activities centers. The OCTA Board of Directors would then evaluate the city's concept, and if it met approval, would award \$5.9 million to the city so that it could continue proposed project planning and evaluation.

This effort would then lead to Step 2 which was completion of an alternative analysis, conceptual engineering and both state and federal environmental clearance. Steps 3 and 4 would then neatly mesh with acceptance by OCTA and the Department of Transportation (DOT), funded by Measure M2 and state and federal sources (Anaheim Go Local, ES-1).

The stated objective of "Go Local" was to satisfy Measure M1 sales tax requirements by asking all 34 of Orange County's incorporated cities to consider new ways to improve transit extensions to the Metrolink Stations. This plan would broaden the reach of Orange County's backbone rail

system to key employment, population and activity centers. OCTA offered funds to each city to explore new ideas, and several cities responded affirmatively. The cities of Santa Ana, Garden Grove and Anaheim were the first to move ahead.

In 2006, Measure M2 was approved by Orange County voters, extending the Measure M1 half-cent local transportation sales tax for an additional 30 years. This tax extension was to be used to help fund projects that include bridge and road upgrades, as well as projects associated with Metrolink improvements and would go into effect in 2011. A portion of this sales tax, called Measure M2 Project-S, was designated to provide funding to connect people between Metrolink stations in Orange County and their final destinations at activity and employment centers (Transit Extensions, 1-3).

In 2007, positive action at the city level began to take place. Santa Ana, Garden Grove and Anaheim, along with OCTA, began feasibility and environmental studies aimed at developing light rail or other transit solutions that would better service their Metrolink Transit stations and support each city's community.

In 2013 the city of Fullerton used Southern California Association of Governments (SCAG) funding to commission a study of transit options, including the potential use of light rail, to connect California State University Fullerton (CSUF) and its Metrolink Transportation Center.

These steps, although incremental, provided a much better venue for local political and public consideration, as well as the ability for each city to address "local impact" concerns. OCTA became the core coordinating agency, assuming both a leadership and coordinating role within Orange County. OCTA's role took the place of the "core city" presence that had characterized both Los Angeles and San Diego over the past 25 years.

Return on Investment Expectations

During much of the current federal administration, efforts to spur interest in transportation capital investment and development have continued to be supported through the President's Annual Budget process.

In 2008, the Department of Transportation's Federal Transit Administration (FTA) provided oversight of a Transit Investments in Greenhouse Gas and Energy Reduction (TIGGER) program that provided public agencies with one-time grants to improve energy efficiency. The TIGGER program received \$100 million in Recovery Act funding. FTA received applications for 561 projects totaling over \$2 billion, severely limiting grant project approval.

In October 2010, the United States Department of the Treasury, along with the Council of Economic Advisors, published an Economic Analysis of Infrastructure Investment report which concluded that correct investment had the potential to create a more livable community for

working Americans. To that end these agencies identified a number of principles for transportation investment:

- To provide more transportation choices in order to decrease household transportation costs, reduce dependence on oil, improve air quality and promote public health;
- To improve economic competitiveness in neighborhoods by giving people reliable access to employment centers, educational opportunities, services and other basic needs;
- To target federal funding toward existing communities – through transit-oriented development and land recycling; and
- To align federal policies and funding to remove barriers to collaboration; leverage funding and increase the effectiveness of programs to plan for future growth (United States. An Economic Analysis, 13-23).

In July 2012, Congress enacted the Moving Ahead for Progress in the 21st Century Act (MAP-21). This act outlined the New Starts program and the detailed process that proposed projects must satisfy to be eligible for capital investment grant funding from the Federal Transit Administration (FTA). The New Starts Program supports same-grade light rail projects.

MAP-21 specifies that proposed New Starts projects must be new fixed guideway projects or extensions to existing fixed guideway systems with an estimated capital cost greater than \$250 million. To qualify for the New Starts Program, the grantee must comply with a very specific list of program requirements showing:

- A funding commitment for at least 30% of non-grant investment;
- Selection of a locally preferred transportation alternative;
- Completed feasibility and environmental studies verifying no local impact; and
- A project management plan detailing key activities, milestones and elements, culminating with an expected completion date (*Final Interim Policy Guidance IV, 2-3*).

It is this specific program that Orange County, through OCTA, is using. At present OCTA sees little possibility of Congress ending this program as it has consistent bipartisan support and presents a direct link between infrastructure development, jobs and expectations for a positive Return on Investment (ROI). As such, it is a long term capital investment effort.

The U.S. Department of Transportation's portion of the President's proposed Budget for FY 2017, supporting the FTA Capital Investment Grant Program for New Starts Not Yet under Construction, includes a \$125 million line item for the Santa Ana and Garden Grove Streetcar that should be used in FY 2017. On February 11, 2016 the *Orange County Register* published an opinion piece where the author thought Congress should trim this amount. The public should note, however, that this is almost half of the total project funding required and demonstrates

DOT's willingness to speed up the project, not slow it down. This is grant money that should be authorized by the Congress for use beginning October 1, 2016 (*Budget Highlights*, 41).

Admittedly, there will always be arguments as to the best way to spend taxpayers' money for transit systems. Also, the Grand Jury recognizes that all roads, freeways, and transit systems are historically subsidized to a large degree by the public. Additionally, ridership and therefore the ability of any one system to pay more of its own costs rises or falls with fare levels, the price of gasoline, and the necessity of the public to use public transit to get to a job.

On January 28, 2016, *The Los Angeles Times* published an article written by a Times reporter discussing declining bus, light rail and subway ridership trends over the past 30 years in both Los Angeles and Orange Counties. It correctly noted that both the Metropolitan Transportation Authority and OCTA are losing riders at an increasing rate. The article quotes the CEO of OCTA as saying, "I don't know if this is long-term, but it doesn't feel like it's temporary when we have been dealing with 36 straight months of declining ridership."

In Orange County there continues to be public debate over changing bus routes so that OCTA can be both more efficient and cost effective, and it is apparent that it is difficult to separate Southern California drivers from their cars. There is also public debate concerning spending taxpayer money for light rail systems versus more bus lines, seeing one as less flexible than the other. Again, while all these arguments have merit in one form or another, they generally do not address long term requirements or changes in demographics that can reasonably be expected. These are the facts that transportation planners need to deal with.

Lastly, it is apparent that any public transportation authority such as OCTA must constantly try to find the best balance for services as it reacts to what the public chooses to do. Given the ability to make a choice, the transit rider will most likely buy a car in order to have the most personal flexibility. This probably will not change and therefore ridership and the ability of any one transit system to pay more of its own costs is dependent on the local economy and job availability, as well as if the system runs on time, has the best route, or is cost effective for those riding.

For those high density urban areas in Orange County pursuing or considering pursuit of a light rail system, the Grand Jury noted that Return on Investment (ROI) expectations differ for each city. Additionally, city policy and management objectives will vary depending on the city's tax base, gains or losses in development opportunities, or the current state of a city's budget. While each of these considerations may be the result of past policy decisions or have simply developed due to changes in the economy over time, each city must try to achieve the best balance for the good of the public.

To this point, city planners generally accept the following ROI possibilities as being associated with development of light rail, recognizing they are not absolutes:

- That real estate values within about 1/8th of a mile of those areas supported by light rail will normally increase by some increment;
- That new development is attracted by fixed-guideway systems that by definition do not move;
- That urban planners will normally decrease parking requirements for new developments based on the expectation that a number of people living near a light rail system will elect not to drive cars;
- That based on experiences in a number of urban areas nationally, light rail systems tend to create a positive impact on businesses and restaurants that are serviced by the system because the traveling public often finds it easier to access them; and
- That existence of a light rail system often provides a boost to public perception of how a city is managed or how a city presents itself to visitors and businesses.

The OC Streetcar Project Connecting Santa Ana and Garden Grove

The OC Streetcar Project is the most developed of the Orange County light rail systems considered by the Grand Jury in terms of its support from the public, local politicians, OCTA and the U.S. Department of Transportation. Substantive work on this project began in 2006 and Santa Ana has invested approximately \$7 million in its environmental impact report.

OCTA has identified and scheduled project funding to be provided by California Cap and Trade, the Orange County M2-Project S sales tax, the Department of Transportation New Starts Program and monies from the Federal Congestion Mitigation and Air Quality Improvement Fund.

The OC Streetcar Project is a 4.1 mile double track system that runs from the Santa Ana Regional Transportation Center (SARTC) in Santa Ana, through Santa Ana's downtown to the Civic Center complex and then northwest across the Santa Ana River to Garden Grove and Harbor Boulevard. The estimated cost of the project is \$70 million per mile of double track. This includes all utility work, light rail cars, stops and signage and a maintenance facility. Figure 1 provides a graphic representation of the system.



Figure 1: OC Streetcar Project Alignment. Courtesy of OCTA.

Excerpts from the Santa Ana to Garden Grove Fixed Guideway Project presentation to the OCTA Transit Committee featured the following supportive talking points:

- Santa Ana and Garden Grove both:
 - Have large transit dependent populations;
 - Require transit connection from the SARTC to job and government centers; and
 - Support establishment of a Garden Grove Transit Hub to link OC Streetcar with the Harbor Boulevard commercial and hotel corridor.
- Immediate project benefits include:
 - When completed, a reduction of traffic congestion on city streets and freeways;
 - Service to key destinations in Santa Ana and central Orange County; and
 - A commuting option, improved air quality and some reduction in automobile dependency.
- Santa Ana and Garden Grove’s commitments to the project are:
 - Financial participation in streetcar operations via Memoranda of Understanding with OCTA;
 - Staff and consultant support during planning; and
 - Provision of experienced leadership.

Santa Ana views the OC Streetcar System as a means to upgrade its downtown image, as well as a way to increase property values and local business. It focuses on increasing Metrolink ridership for the many people who work in the Civic Center complex by offering them an alternative to finding parking. The Civic Center Complex encompasses the Federal Courthouse, Homeland Security Offices, County Government Offices, the Superior Court, the Sheriff/Coroner’s Offices,

the Central Jail complex and Santa Ana city government offices, in addition to the restaurants and businesses that provide services to these agencies.

Garden Grove views the OC Streetcar System as a way to increase use of hotels and parks associated with Harbor Boulevard, as well as a means to increase property values and spur new development around the planned Transit Center at Harbor Boulevard. As Garden Grove's major tax revenues are directly affected by tourist use of hotels and amusement parks, any means for increasing this revenue is important.

Both cities are actively seeking long term benefit for their public image, recognizing that completion of the OC Streetcar Project in 2020 will provide a first success model for the rest of Orange County.

In 2014, based on the OC Streetcar project efforts of the cities of Santa Ana and Garden Grove, the OCTA Board of Directors approved OCTA to serve as the implementer and owner/operator for the OC Streetcar Project. OCTA's assigned responsibilities for the OC Streetcar Project are:

- To serve as the grantee for the Federal New Starts Program;
- To serve as the lead agency for continuing project development, engineering and construction;
- To own, operate, and maintain the system;
- To procure all services necessary to implement the project; and
- To provide annual operating subsidies net of fare box, city contribution and other revenues (OCTA Board Actions 1).

In May 2015, the FTA approved OCTA's entrance into Federal New Starts Program to continue funding and development of this project. By June 2015 an initial Cost, Risk Assessment, and Value Engineering (CRAVE) study for OC Streetcar Project was completed and in July 2015 the FTA assigned a project management oversight consultant to the project. The OC Streetcar Project is now entering its New Starts Engineering Phase (*OC Streetcar*).

Project completion, testing and operations are expected by early 2020 and all stakeholders are looking forward to a first for Orange County.

The City of Anaheim and the Anaheim Rapid Connection (ARC) Project

In 2006, Anaheim also took advantage of OCTA's "Go Local" program to establish and publish a Transit Master Plan. Then in 2011, Anaheim entered into a number of Cooperative Agreements with OCTA to advance the project. In 2014, OCTA approved Anaheim's selection of fixed guideway light rail as the locally preferred alternative for augmenting transit extensions for Metrolink.

The initial Alternative Analysis completed in 2014 showed little or no impact from the proposed project alignment. However, in 2015, the Anaheim city council directed staff to study an additional alignment to minimize any need to acquire private property for right of way access. Figure 2 provides a graphic of the new alignment.

As a result, a second environmental impact study was commissioned and is expected to be completed late 2016. This study is partially funded through the Anaheim Tourism Improvement District (ATID), a public/private entity created by an Anaheim city ordinance that collects a tax on hotel use to be used to promote tourism transportation. ATID has paid \$1.3 million toward the second environmental study.

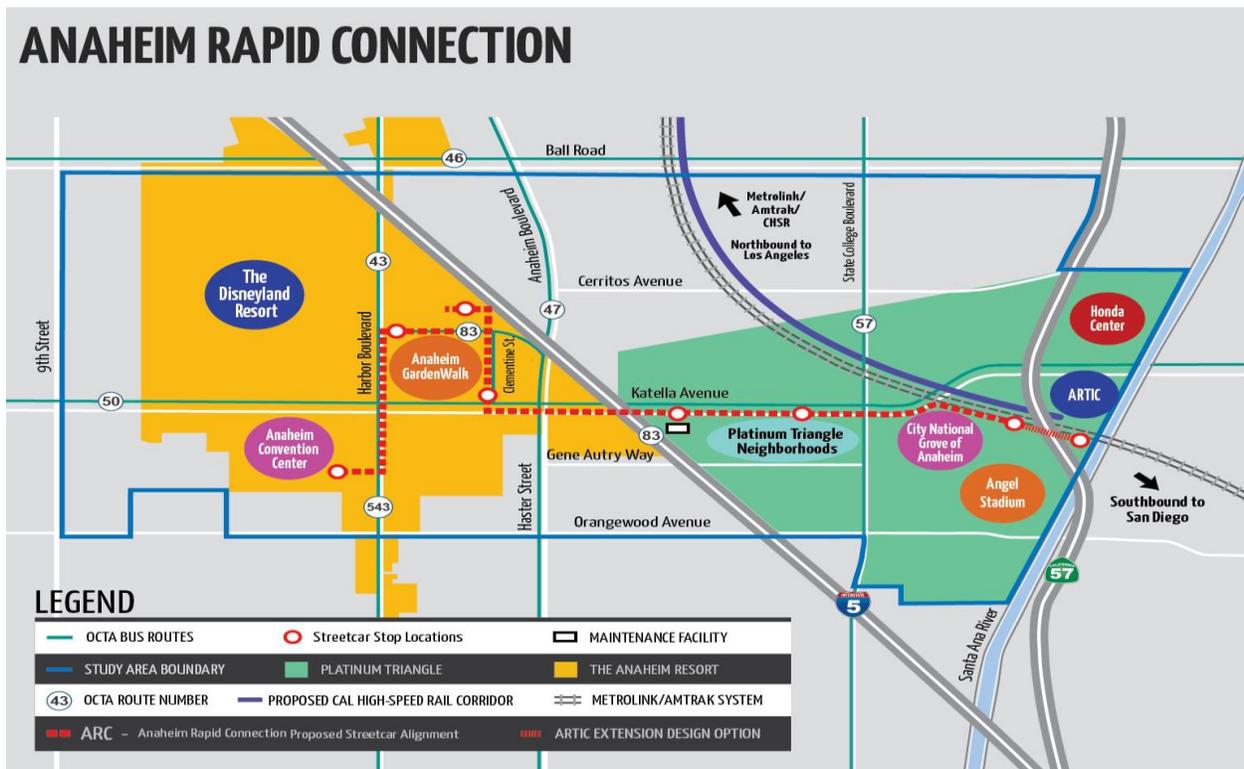


Figure 2: ARC Alignment. Courtesy of City of Anaheim

The ARC, as now proposed, is a 3.1 mile double track system that runs from the Anaheim Regional Transportation Intermodal Center (ARTIC) next to Angel Stadium, along Katella Avenue through the Platinum Triangle to Clementine Street. It will turn west to Harbor Boulevard and then south to Convention Way. The project will connect to a multi-use station at the intersection of Clementine Street and Disney Way which will be constructed by Disneyland. This light rail system will serve the Anaheim Convention Center as well as the hotels and services attendant to the Anaheim convention center and Disneyland.

The estimated cost of the ARC project is \$100 million per mile of double track which includes utilities, streetcars, stops, signage and a maintenance facility. While this is more than the \$70 million per mile estimated for the OC Streetcar Project, Anaheim has elected to tailor its proposed project so that it has station/stop upgrades that match ongoing city improvements. It also plans to buy additional light rail cars.

The Anaheim Visitors Bureau is very supportive of the ARC and views it as another transportation option for the city. In addition, the Visitors Bureau is closely aligned with the Anaheim Resort Transportation (ART), a private non-profit bus system run by Anaheim's hoteliers. The ART was created because it made more sense to have a shared bus system linking Anaheim's resorts and hotels than each hotel having its own shuttle buses. When the ARC project is completed, ART plans to reconfigure routes and service to take advantage of the ARC's routes and stations. This model has shown itself to be effective in San Diego and addresses some objections about light rail not being accessible to the public because it runs on a fixed route.

In addition to the creation of the new Star Wars venue at Disneyland, which is expected to bring significant new tourism, Anaheim is projecting major business and residential growth by 2021. Zoning for the Platinum Triangle allows for 18,988 residential units, 14.1 million sq. ft. of office space and 4.8 million sq. ft. of retail space. The Platinum Triangle includes Angel Stadium, the Honda Center and the Grove of Anaheim (*Initial Study 7-8*). According to the *Orange County Register's* November 19, 2015 Anaheim Bulletin, scheduled hotel and resort construction in Anaheim should create an additional 1,555 rooms by the end of 2016 and another 2,129 by 2021. On a somewhat longer horizon, Anaheim projects another 3.4 to 10 million sq. ft. of office and retail space requirements, 65% within 1/8 mile of projected light rail stops.

This forecasted development shows Anaheim becoming even more of a center for tourism and business, as well as a more exciting place to live.

Anaheim views the ARC project as primarily focused on providing enhanced mobility for the public. It also acknowledges that use of light rail systems can create economic development and welcomes that concept. A key phrase is that the proposed light rail system will encourage "walkability," the ability for workers and tourists to move around Anaheim's urban core, from home to stores, work and entertainment, without having to use a car.

Funding for the ARC Project will most likely be provided by California Cap and Trade, Orange County M2-S Sales Tax, the Department of Transportation New Starts Program and Federal Congestion Mitigation and Air Quality Improvement grants; however, these entities have not yet allocated the money.

Anaheim's resort industry currently does not completely satisfy the Federal Transit Authority's more traditional industry-based ridership model which assumes commuters are going to manufacturing, production or commercial jobs, rather than those that work in equally important services and entertainment jobs that primarily cater to the tourist industry. Because of this issue some OCTA Board members are concerned that the ARC will not qualify for the New Starts Program. To counter this concern, the Anaheim city staff is working closely with the FTA to define a ridership model that recognizes Anaheim service and resort worker commutes as well as resort guest mobility and large event transit needs.

Anaheim expects to be successful in this joint effort but recognizes this will require patience and a long-term commitment. The Grand Jury considers Anaheim to be "on the right track."

The City of Fullerton's Efforts to Study Use of Light Rail

While Fullerton has studied the potential for light rail as a transit option, the City Council has not yet given direction to pursue a specific project.

Fullerton has long been a railroad town and continues to see rail as most important to its future. Fullerton hosts a number of heavy rail and commuter rail providers. Along with Amtrak's Pacific Surf liner and Southwest Chief lines between San Diego and Los Angeles, there are seven miles of Metrolink rail joining the Metrolink 91 Line from Riverside and the Orange County Line, then proceeding into the heart of Los Angeles.

In addition to the above, there exists an unused Union Pacific ROW that could become a light rail extension with the purchase of an additional 2.5 miles of ROW. Fullerton is also interested in the long term potential for a light rail link with the Los Angeles Metro System and in 2010 sent a Letter of Support concerning this to the City of Whittier.

Fullerton's Metrolink Transportation Center, although small in size, leads all other Orange County Metrolink stations in ridership. By 2020, an anticipated 4,000 Metrolink riders per day are expected to use this transportation center. Reasons include ease of access and parking, as well as an interesting downtown with entertainment and restaurants. A large component of this ridership is passengers who commute the approximately 30 minutes from Orange County to Los Angeles and back each day.

The California High Speed Rail Authority (CHSRA) has identified the Fullerton Transportation Center for a possible skip-stop service on the Los Angeles to Anaheim portion of the high speed rail project. Skip-stop service reduces rail travel times and increases rail line capacity by allowing one train to wait on a parallel rail line while a faster train passes through.

The key to Fullerton's ability to use light rail rests with the two rush periods experienced by Metrolink each weekday, from 6 AM to 8 AM each morning and then from 4 PM to 6 PM each evening. By providing transit extension capability that does not necessarily require the use of automobiles, Fullerton seeks to open its historic downtown and schools to transit riders throughout Orange County, and sees this as a way to capitalize on what is an expanding population of transit riders.

The City wants to encourage commuters to use its historic downtown for dinner and entertainment after their work day and would like to see California State University at Fullerton (CSUF) students use Metrolink and a transit link to get to class, instead of using limited college parking. Finally, Fullerton is host to approximately 300 contract manufacturers that enjoy easy access to Los Angeles for business development.

In 2008, Fullerton participated in the OCTA "Go Local" program to study various ways to increase Metrolink ridership. At that time, the idea of a link connecting the Metrolink Transit Center with the Fullerton college complex was developed. Then in 2013, using money from SCAG, channeled through OCTA, Fullerton commissioned a College Connector Study to examine connecting its Metrolink Transit Center to CSUF and the college complex in the Eastern part of town. CSUF continues to be fully engaged in this process.

In February, 2014 the Fullerton city staff presented the College Connector Study to the Fullerton city council. The Council authorized submission of the study to OCTA as an "unconstrained" project involving light rail as one option and directed staff to move ahead with planning (Van Stratten 1).

The proposed transit alignment would be approximately four miles running from the Transit Center at 120 E. Santa Fe Avenue, through Fullerton's downtown area to the CSUF complex. While Fullerton has not made a final alignment selection, a route that generally follows both Commonwealth Avenue and Chapman Avenue in a loop makes sense.

Finally, Fullerton is looking for ways to capitalize on possible future growth along the Harbor Boulevard corridor and to attract residents and businesses interested in living in Orange County, and commuting to Los Angeles.

The Fullerton city council will need to make a number of policy decisions in order to become fully engaged with OCTA and Department of Transportation processes. These will most likely include:

- Full endorsement of light rail as a policy matter;

- Policies that encompass CSUF as well as the other colleges on the eastern side of Fullerton;
- Completion of a transportation plan and feasibility study;
- Completion of an environmental plan; and
- A commitment to provide financial support to help make all the above occur.

The Grand Jury supports Fullerton’s efforts and notes that OCTA has earmarked approximately \$3.5 million to help the city advance transit options once the city council has provided policy direction.

COMMENDATIONS

The Grand Jury would like to commend the employees of OCTA and the cities interviewed in the course of this investigation for their hard work and dedication to advancing light rail and other transit options in Orange County. Each seeks to promote the public good and economic growth in their communities and within Orange County based on their understanding of the benefits of various public transportation options. The Grand Jury also commends each for recognizing the need for a longer term County Transportation Master Plan that could help create an intra-county network of light rail and other transit options, as well as additional rail links with Los Angeles County.

FINDINGS

In accordance with *California Penal Code* Sections 933 and 933.05, the 2015-2016 Grand Jury requires responses from each agency affected by the findings presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation titled “Light Rail: Is Orange County on the Right Track?” the 2015-2016 Orange County Grand Jury has arrived at five principal findings, as follows:

F.1. The lack of development of second-generation light rail in Orange County can be closely linked to the reality of different transit priorities for the thirty-four diverse cities in the county.

F.2. Orange County would benefit from the examples of Los Angeles and San Diego Counties with their history of promoting centrally organized and run light rail systems. As a result, these counties were well-positioned to plan for and develop second generation light rail systems expansion in the 1980’s.

F.3. Approval of OCTA as implementer and owner/operator of the OC Streetcar Project, and as subsequent grantee for the Federal New Starts Program, has created the basis for enabling further light rail development in Orange County to include public outreach and marketing/promotion efforts.

F.4. Creation by OCTA of a draft light rail Master Plan for Orange County that includes both intra and inter county transit connectivity options would be of considerable value to the public.

F.5. The long project times associated with light rail system establishment require not only careful planning and coordination by OCTA, but also consistent efforts to inform the public by those Orange County cities involved in development or possible development of light rail projects.

RECOMMENDATIONS

In accordance with *California Penal Code* Sections 933 and 933.05, the 2015-2016 Grand Jury requires responses from each agency affected by the recommendations presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation titled “Light Rail: Is Orange County on the Right Track?” the 2015-2016 Orange County Grand Jury makes the following eight recommendations:

R.1. OCTA should initiate another “Go Local” effort in FY 16/17 encouraging more Orange County cities to advocate for light rail or other transit connections to assist Metrolink ridership. (F.1., F.3.)

R.2. OCTA should organize and lead focus groups during FY 16/17 to gauge public reaction to transportation options for Orange County that will be affected by the changes in working and population centers forecast for the next 20 years. (F.1., F.3.)

R.3. OCTA should use multi-lingual (English, Spanish, Korean and Vietnamese) Web and printed marketing materials to highlight Metrolink Transportation Center and light rail connectivity efforts in Orange County. (F.1., F.3.)

R.4. OCTA should create a draft phased light rail Master Plan during FY 16/17 that links the County’s high density urban areas and connects with Metrolink and Los Angeles County’s Metro light rail system. (F.4.)

R.5. OCTA should publish this Master Plan on its Website once it is created and provide a Website progress update every six months. (F.4.)

R.6. Santa Ana and Garden Grove should create links on their Websites within six months of receipt of this report that show their efforts to complete the OC Streetcar Project and then update these Websites every three months. (F.5.)

R.7. Anaheim should maintain its link on the city's Website that shows efforts to successfully complete the ARC project and then update that Website every three months. (F.5.)

R.8. Fullerton should create a link on the city's Website that describes the Fullerton City Council's policy decision process concerning the best transit option to support the College Connector Plan, and then update this Website every three months. (F.5.)

REQUIRED RESPONSES

The California Penal Code Section 933 requires the governing body of any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the governing body. Such comment shall be made *no later than 90 days* after the Grand Jury publishes its report (filed with the Clerk of the Court). Additionally, in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), such elected County Official shall comment on the findings and recommendation pertaining to the matters under that elected official's *within 60 days* to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code Section 933.05, subdivisions (a), (b), and (c), detail, as follows, the manner in which such comment(s) are to be made:

(a) As to each Grand Jury finding, the responding person or entity shall indicate one of the following:

(1) The respondent agrees with the finding

(2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefore.

(b) As to each Grand Jury recommendation, the responding person or entity shall report one of the following actions:

(1) The recommendation has been implemented, with a summary regarding the implemented action.

(2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.

(3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the Grand Jury report.

(4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefore.

(c) If a finding or recommendation of the Grand Jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the Grand Jury, but the response of the Board of Supervisors shall address only those budgetary/or personnel matters over which it has some decision making authority. The response of the elected official or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with Penal Code Section 933.05 are required from:

Responses Required:

Responses are required from the following governing bodies with 90 days of the date of publication of this report:

90 Day Required Responses:	F1	F2	F3	F4	F5
Board of Directors, OCTA:	X	X	X	X	X
City Council, City of Santa Ana:					X
City Council, City of Garden Grove:					X
City Council, City of Anaheim:					X
City Council, City of Fullerton:					X

90 Day Required Responses:	R1	R2	R3	R4	R5	R6	R7	R8
Board of Directors, OCTA:	X	X	X	X	X			
City Council, City of Santa Ana:						X		
City Council, City of Garden Grove:						X		
City Council, City of Anaheim:							X	
City Council, City of Fullerton:								X

WORKS CITED

- City of Anaheim. *Anaheim Go Local Transit Master Plan Final Report*. Irvine, CA. 18 Dec. 2007. Print.
- City of Anaheim. *Initial Study for the Anaheim Rapid Connection (ARC) Fixed Guideway CSUF*. Daily Titan. 11 May 2014. Web. 25 Jan. 2016.
- Delong, James V. *Myths of Light Rail Transit Policy Study No. 244*. Reason Public Policy Institute. Reason Foundation. reason.org. 1 Sep. 1998. Web. Dec. 12. 2015.
- Expo Line (Los Angeles Metro)*. Wikipedia. 21 Oct. 2015. Web. 27 Oct. 2015
- Light Rail in the United States*. Wikipedia. 24 Aug. 2015. Web. 1 Sep. 2015.
- Mallinckrodt, Jack. *Centerline Light Rail Unveiled*. Urbantransport.org. 3 Aug. 2004. Web. 8 Jan. 2016.
- OC Streetcar*. Projects-and-Programs/All-Projects/Rail-Projects. octa.net. Web. 22 Sep. 2015.
- Orange County Transportation Authority*. Wikipedia. 15 Jun. 2015. Web. 18 Jul. 2015.
- Pacific Electric*. Wikipedia. 9 Oct. 2015. Web. 12 Oct. 2015.
- Passenger Rail Terminology*. Wikipedia. 9 Oct. 2015. Web. 6 Nov. 2015.
- San Diego Metropolitan Transit System*. Wikipedia. 25 Jun. 2015. Web. 7 Sep. 2015.
- San Diego Trolley*. Wikipedia. 6 Jul. 2015. Web. 18 Jul. 2015.
- Santa Ana Streetcar Project: A Study in Local Transit Planning*. ocgrandjury.org. 4 May 2010. Web. 19 Nov. 2015.
- Sprinter*. Wikipedia. 1 Dec. 2015. Web. 18 Jan. 2015.
- Transit Extensions to Metrolink*. Projects and Programs/All Projects/Rail-Projects. octa.net. Web. 27 Oct. 2015.
- United States, Department of the Treasury with the Council of Economic Advisors. *An Economic Analysis of Infrastructure Investment*. Washington DC: 11 Oct. 2010. Print.
- United States. Department of Transportation. *Budget Highlights, Fiscal Year 2017 Proposed Budget*. Washington DC: Dec. 2016. Print.
- United States. Department of Transportation. Federal Transit Administration. *Final Interim Policy Guidance Federal Transit Administration Capital Investment Grant Program*. Washington DC: 20 Aug. 2015. Print.

Urban Cores, Core Cities and Principal Cities. Newgeography.com. Web. 1 Dec. 2015.

Van Stratten, Gina. *City Studying Public Transportation Project to Connect Downtown with CSUF*. Daily Titan. 11 May 2014. Web. 25 Jan. 2016.

Weikel, Dan. *Rail Could Make a Comeback in OC*. Daily Pilot. Tradvisors.com/resources/news. Web. 6 Aug. 2015.

WORKS CONSULTED

Anaheim Streetcar Economic Impact & Development Study. GB Place Making. E.D. Hovee and Company. 30 Aug 2013. Print.

Anaheim Chamber of Commerce. anaheimchamber.org. 2014. Web. 31 Dec. 2015.

Board Actions 8 Aug. 2014. octa.net. 11 Aug. 2014. Web. 5 Oct. 2015.

City of Anaheim. Council Agenda Report. Department of Public Works. *Anaheim Rapid Connection (ARC) Fixed-Guideway Project Update*. Anaheim, CA. 22 April 2012. Print.

City of Anaheim. Council Agenda Report. Department of Public Works. *Anaheim Rapid Connection (ARC) Fixed-Guideway Project-Selection of Locally Preferred Alternate and Acceptance of Anaheim Transportation Improvement District (ATID) Transportation Funds*. Anaheim, CA: 23 Oct 2012. Print.

Cooperative Agreement No. C-6-0692 between OCTA and City of Santa Ana. *City Initiated Transit Extensions to Metrolink w/Amendment*. Santa Ana, CA. 21 Mar. 2007. Print.

Cooperative Agreement No. C-8-1157 between OCTA and City of Santa Ana. *City of Santa Ana Fixed-Guideway Project w/Amendments*. Santa Ana, CA. 23 Mar. 2015. Print.

Felgenbaum, Baruch. *Southern California Mobility Plan*. reason.org.news/show. 17 Nov. 2015. Web. 27 Nov. 2015.

Freemark, Yonah. *Have U.S. Light Rail Systems Been Worth the Investment?* Blog. @yfreemark. 10 Apr. 2014. Web. 29 Oct. 2015.

Garden Grove Chamber of Commerce. gardengrovechamber.com. 2012. Web. 31 Dec. 2015.

Harris, Marlys. *When it Comes to Public Subsidies, Twin Cities Light Rail Seems a Bargain*. minnpost.com/cityscape. Jun. 2012. Web. 29 Oct. 2015.

Moving into the Future at Hyper drive. Orange County Register. 7 Dec. 2015:News 1,10. Print.

North Orange County Chamber. nocchamber.com. 2015. Web. 31 Dec. 2015.

Orange County Transportation Authority 2015-2016 Approved Budget. Santa Ana, CA. Jul. 2015. Print.

Pacific Electric Right-of-Way Study Update Power Point. Orange County Transportation Authority. Santa Ana, Ca. 2010. Print.

Santa Ana Chamber of Commerce. SantaAnaChamber.com. 2015. Web. 31 Dec. 2015.

Southern California Association of Governments. Scag.ca.gov/about. 2015. Web. 3 Jan. 2016.

APPENDICES

Appendix A: Glossary

Anaheim Regional Transportation Intermodal Center (ARTIC)

The Metrolink Commuter rail station and transportation hub located at East Katella Avenue in Anaheim, CA. The ARTIC may become a terminal for the ARC Light Rail project being considered by the city of Anaheim that could eventually link the ARTIC with Anaheim's Platinum Triangle, Convention Center and Cultural Center.

Anaheim Tourism Improvement District (ATID)

On Sept. 4, 2010 the Anaheim City Council established the Anaheim Tourism Improvement District (ATID). This Special District is specifically designed to help fund promotion of local tourism and convention related programs, as well as transportation improvements helping to connect the ARTIC with the Anaheim Resort and Platinum Triangle. The ATID resolution sets aside 25% of its annual funding for planning, design, construction and operation of transit improvements. About \$3 million is generated annually that can be used to support ARC. In 2015 \$1.3 million was provided to help fund a second Environmental Impact Study required for Anaheim to meet Federal New Starts Program requirements.

Federal New Starts Program as defined by US DOT/FTA

Authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted (by Congress) on July 6, 2012, this law...authorizes (a)...Capital Investment Grant Program (under the U.S. Department of Transportation, Federal Transit Administration)...which)...specifies ...New Starts projects must be fixed guideway projects or extensions to existing fixed guideway systems (and therefore)...can include...streetcars (Final Interim Policy Guidance 1-2).

High Density, Urban Core Cities

Defined as Urban Cities with a per square mile population of 7,500 or more people.

OC Streetcar as defined by OCTA

...the first modern streetcar project to be built in Orange County (to) serve Santa Ana's historic and thriving downtown...Expected to begin carrying passengers in late 2020; it will operate along a 4.15 mile route that connects the Santa Ana Regional Transportation Center (SARTC) and a new transit hub at Harbor Boulevard and Westminster Avenue in Garden Grove (OC Streetcar 1-3).

Santa Ana Regional Transportation Center (SARTC)

The Metrolink Commuter Rail station and transportation hub located at 1000 E. Santa Ana Blvd. in Santa Ana, CA. The SARTC is currently operated by the City of Santa Ana and will become one of the transit terminals for the OC Streetcar project.

Southern California Association of Governments (SCAG)

SCAG was established in 1965 as a California Joint Powers Authority. As an association of local governments and agencies, SCAG meets voluntarily to address regional issues for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. SCAG is designated under federal law as a Metropolitan Planning Organization and under California state law as a Regional Transportation Planning Agency and a Council of Governments. The agency provides long-range regional transportation planning that includes consideration for community strategy and growth, as well as regional housing requirements and air quality management.

Appendix B: Transit Options, Metrics Analysis by Selected City

Grand Jury Analysis of Preferred Transit Extension Option for Santa Ana and Garden Grove: (Metrics: Transit rider attractors, funding sources and current project status.)		
	<u>Santa Ana (OC Streetcar)</u>	<u>Garden Grove (OC Streetcar)</u>
<u>Transit Rider Attractors</u>	<u>Transit Rider Attractors</u>	<u>Transit Rider Attractors</u>
Manufacturing:	Yes	Yes(Largely Contract)
Sports Venues:	Yes (School)	Yes (School)
Metrolink Corridor/Amtrak Line:	Yes	Via Santa Ana
Convention Center:	No	No
City Government Center:	Yes	Yes
County Government Center:	Yes	No
US Government Center:	Yes	No
General Corporate Interest:	Yes	Yes
Destination Hotels	Yes	Yes
Destination Restaurants/Bars:	Yes	Yes
Regional Shopping Malls:	Yes	No
Cathedral:	No	Yes
Schools and Universities:	Yes	Yes
<u>Funding Sources:</u>	<u>Funding Sources:</u>	<u>Funding Sources:</u>
Initial SCAG or OCTA Go Local Support:	Yes, via Go Local Program	Yes
Special District Financial Support:	No	No
CA Cap & Trade:	\$40.00M	Yes
Orange County M2S Sales Tax:	\$55.92M	Yes
Dep. Of Trans. New Start Program:	\$144.37M Program Total	Yes
Proposed President's Budget:	\$125M for FY2017	Yes
Fed.Congestion Mitigation & Air Qual. Improv:	\$48.45M	Yes
<u>Current Project Status:</u>	<u>Current Project Status:</u>	<u>Current Project Status:</u>
Project Size in Miles:	4.1 miles of double track	Yes
Feasibility and Environmental Studies Published:	Completed	Completed
State and Local Funding Identified:	Completed	Completed
DOT approval to enter New Starts Program:	Completed	Completed
RFP release for Streetcar design:	Completed	Completed
CRAVE study publication:	Completed	Completed
DOT Project Mgmt. Consultant assigned:	Completed	Completed
Project Final Design/Engineering:	2015-2017	2015-2017
Project Construction:	2017-2020	2017-2020
Project Completion/Operations Begin:	2020	2020

Light Rail: Is Orange County on the Right Track?

**Grand Jury Analysis of Preferred Transit Extension Option for Santa Ana and Garden Grove:
(Metrics: General Information, relationship with OCTA, advocates & opponenents and economic goals.)**

	<u>Santa Ana (OC Streetcar)</u>	<u>Garden Grove (OC Streetcar)</u>
General Information:	General Information:	General Information:
Meets M2S Criteria for Metrolink Transit Feed:	Yes	Via Santa Ana
Regional Transportation Center Linkage:	SARTC (AMTRAK/Metrolink)	Via Santa Ana
Current Project Investment by City:	\$6.976M	Linked to Santa Ana Effort
Est. cost per mile double track:	\$70M	\$70M
Increases mobility and flexibility of Labor Pool:	North County Regional Impact	North County Regional Impact
Relationship with OCTA:	Relationship with OCTA:	Relationship with OCTA:
Initial OCTA funded for "Go Local" Program:	Go Local Grant for Transit Study	Via Santa Ana
Initial Cooperative Agreement with OCTA:	C-6-0692 dtd. Mar. 21, 2007 as Amended	Re: Santa Ana Table
OCTA Board approves Proj. Mgmt & Ownership:	Aug. 11, 2014	Aug. 11, 2014
Add. Coop. Agreements with OCTA:	C-8-1157 dtd. Sep. 9, 2008 as Amended	Re: Santa Ana Table
Add. Coop. Agreements with OCTA:	N/A	Re: Santa Ana Table
MOU w/OCTA for Proj. Compl. & Ops. Funding:	MOU C-5-3295 Eff. 8/31/2015	MOU C-5-3418 Eff. 9/22/2015
Advocates:	Advocates:	Advocates:
Mayor:	Yes	Yes
City Council:	Unanimous	Unanimous
OCTA Board of Directors:	Majority	Majority
Light Rail knowledgeable City Staff:	Very	Very
Theme Parks & Sports Venues:	Yes (via Garden Grove)	Yes
Destination and Business Hotels:	Yes	Yes
Newspaper/OpEd/Blog:	Light rail project needs support	Light rail project needs support
Other Advocates:	Not identified	LaTerra Develop. LLC Invest.@ Harbor Blvd
Opponents:	Opponents:	Opponents:
Newspaper/OpEd/Blog:	Articles: "Buses more cost effective"	Articles: "Buses more cost effective"
Individuals:	Interview: Some downtown Business Owners	None Identified
Economic Goals:	Economic Goals:	Economic Goals:
Although these economic goals may not be all inclusive, based upon the Return on Investment expectations from Report interviews, they represent a reasonable order of priority.	To increase the Business & Tax Base.	To increase Tourist Trade & Tax Base.
	To increase ROW Adjacent Prop. Values.	To contribute to a Balanced City Budget.
	To enable a more upscale Downtown Image.	To increase ROW Adjacent Property Values.
	To attract New Business.	To attract New Business.
	To increase Transit use via Garden Grove.	A possible Harbor Blvd. N. Rail Extension.

Light Rail: Is Orange County on the Right Track?

**Grand Jury Analysis of Preferred Transit Extension Options for Anaheim and Fullerton:
(Metrics: Transit rider attractors, funding sources and current project status.)**

	Anaheim (Anaheim Rapid Connection)	Fullerton (No Policy Decision)
<u>Transit Rider Attractors</u>	<u>Transit Rider Attractors</u>	<u>Transit Rider Attractors</u>
Major and Light Manufacturing:	Yes(Largely Contract)	Yes(Largely Contract)
Sports Venues:	Yes	Yes
Metrolink Corridor/Amtrak Line:	Yes	Yes (Two Metrolink Corridors)
Convention Center:	Yes	No
City Government Center:	Yes	Yes
County Government Center:	No	No
US Government Center:	No	No
General Corporate Interest:	Yes	Yes
Destination Hotels	Yes	Yes
Destination Restaurants/Bars:	Yes	Yes
Regional Shopping Malls:	Yes	No
Cathedral:	No	No
Schools and Universities:	Yes	Yes
<u>Funding Sources:</u>	<u>Funding Sources:</u>	<u>Funding Sources:</u>
Initial SCAG or OCTA Go Local Support:	Yes, via Go Local Program	Yes, SCAG \$ for College Connector Study
Special District Financial Support:	ATID (\$1.3M for Environ. Study)	No
CA Cap & Trade:	Pending Fed New Starts Process Approval	TBD
Orange County M2S Sales Tax:	Pending Fed New Starts Process Approval	TBD
Dep. Of Trans. New Start Program:	Pending Fed New Starts Process Approval	TBD
No	No	\$3.5M via OCTA Pending
Fed.Congestion Mitigation & Air Qual. Improv:	Pending Fed New Starts Process Approval	TBD
<u>Current Project Status:</u>	<u>Current Project Status:</u>	<u>Current Project Status:</u>
Project Size in Miles:	3.1 miles of double track	Approx. 4 miles of transit connection
Feasibility and Environmental Studies Published:	Environmental Study #2 in Process	Pending Policy Decision
State and Local Funding Identified:	Pending	Pending Policy Decision
DOT approval to enter New Starts Program:	Pending	Pending Policy Decision
RFP release for Streetcar design:	Pending	Pending Policy Decision
CRAVE study publication:	Pending	Pending Policy Decision
DOT Project Mgmt. Consultant assigned:	Completed	Pending Policy Decision
Project Final Design/Engineering:	TBD	Pending Policy Decision
Project Construction:	TBD	Pending Policy Decision
Project Completion/Operations Begin:	TBD	Pending Policy Decision

Light Rail: Is Orange County on the Right Track?

**Grand Jury Analysis of Preferred Transit Extension Options for Anaheim and Fullerton:
(Metrics: General Information, relationship with OCTA, advocates & opponents and economic goals.)**

	<u>Anaheim (Anaheim Rapid Connection)</u>	<u>Fullerton (No Policy Decision)</u>
General Information:	General Information:	General Information:
Meets M2S Criteria for Metrolink Transit Feed:	Yes	Yes
Regional Transportation Center Linkage:	ARTIC (AMTRAK/Metrolink)	AMTRAK/Metrolink (2 Corridors)
Current Project Investment by City:	\$3,603M	Not Yet
Est. cost per mile double track:	\$100M	Estimate: \$70M if light rail used
Increases mobility and flexibility of Labor Pool:	North County Regional Impact	North County Regional Impact
Relationship with OCTA:	Relationship with OCTA:	Relationship with OCTA:
Initial OCTA funded for "Go Local" Program:	Go Local Grant for Transit Master Plan Study	SCAG Grant for College Connector Study
Initial Cooperative Agreement with OCTA:	C-8-1156 dtd. 9/16/2015 as Amended	Not Yet
OCTA Board approves Proj. Mgmt & Ownership:	OCTA approves 6/24/14 Light Rail selection	Not Yet
Add. Coop. Agreements with OCTA:	C-1-2448 dtd. 3/14/2011 as Amended	Not Yet
Add. Coop. Agreements with OCTA:	C-1-3115 dtd. 1/4/2012 as Amended	Not Yet
MOU w/OCTA for Proj. Compl. & Ops. Funding:	Pending	Not Yet
Advocates:	Advocates:	Advocates:
Mayor	No	Pending Policy Decision
City Council	Oct. 2012 By Majority Vote	Majority
Majority	Majority OCTA Board	Early OCTA Support for Study
Light Rail knowledgeable City Staff	Very	Yes
Theme Parks & Sports Venues	Yes	Connections to other Cities
Destination and Business Hotels	Yes	Yes but local
Newspaper/OpEd/Blog:	Light rail project needs support	Light rail is a good solution
Other Advocates:	ATID (\$1.3M for Eviron. Study)	\$3.5M via OCTA Pending
Opponents:	Opponents:	Opponents:
Newspaper/OpEd/Blog:	Articles: "Buses more cost effective"	Some Community Opposition
Individuals:	Interview: Some Community Opposition	Interview: Some Community Opposition
Economic Goals:	Economic Goals:	Economic Goals:
Although these economic goals may not be all inclusive, based upon the Return on Investment expectations from Report Investigation, they represent a reasonable order of priority for each city.	To increase Tourist Trade & Tax Base. To increase ROW Adjacent Property Values. To enhance downtown image. To supt. Business & Urban Development. To increase Transit Use via ARTIC.	To promote College connectivity. To increase Transit Use to Los Angeles. To increase Tourist Trade & Tax Base. To increase Downtown Business Developm't. To supt. Business Development.

Appendix C: Continuity References

Entity Responding	Title	Mail Stop	Street Address	City	Postal Code	Phone Number
OCTA	CEO	PO Box 14184	550 South Main St.	Orange	928623-1584	714.560.6282
Santa Ana	City Manager	N/A	20 Civic Center Plaza	Santa Ana	92702	714.647.5400
Garden Grove	City Manager	N/A	11222 Acacia Parkway	Garden Grove	92840	714.741.5000
Anaheim	City Manager	N/A	200 S. Anaheim Blvd.	Anaheim	92805	714.765.4311
Fullerton	City Manager	N/A	3003 W. Commonwealth Ave.	Fullerton	92832	714.738.6300