From Freight Rail to Light Rail: The Metro Harbor Subdivision Transit Corridor

Melissa Reggiardo  
STV Incorporated  
Los Angeles, CA

Tyler Bonstead  
STV Incorporated  
Los Angeles, CA

Randy Lamm  
Metro  
Los Angeles, CA

ABSTRACT

The Harbor Subdivision freight rail corridor used to be the main access for the BNSF Railway into the ports of Los Angeles and Long Beach, carrying over 25 trains per day at its peak. But with the opening of the grade-separated, freight-dedicated Alameda Corridor in 2002, nearly all freight traffic shifted off the Harbor Subdivision. The corridor, which is now owned by the Los Angeles County Metropolitan Transportation Authority (Metro), runs through twelve cities in the South Bay area and is an excellent candidate for the future introduction of high-capacity transit service.

Metro initiated an Alternatives Analysis (AA) study in May 2008 to study the suitability of the Harbor Subdivision for future transit service. This study faced several unique challenges due to the diverse nature of the study area cities and corridor operations. Challenges included the extensive length of the corridor (26 miles from downtown Los Angeles to the ports), which led to a large number of potential transit alternatives, 96 at-grade crossings, and Federal Railroad Administration (FRA)-compatibility and operations issues since there is still limited heavy freight service in the corridor.

Measure R, a sales tax measure passed by Los Angeles County voters in 2008, provides partial funding for three proposed projects along the Harbor Subdivision corridor. Major effort has recently been undertaken to prioritize future projects in LA County, and the implementation strategy for the Harbor Subdivision is a key component of this process. With the approval of the Harbor Subdivision AA Study in December 2009, work is now progressing on the preparation of a Draft Environmental Impact Statement / Environmental Impact Report (EIS/EIR) for a segment which is called the “South Bay Metro Green Line Extension.” This is the highest priority project in the Harbor Subdivision corridor, an extension of the existing Metro Green Line light rail service into the South Bay.

INTRODUCTION

The Harbor Subdivision is an approximately 26-mile-long right-of-way (ROW) in southwestern Los Angeles County owned by the Los Angeles County Metropolitan Transportation Authority (Metro). The corridor runs from south of downtown Los Angeles at Redondo Junction southwest to Los Angeles International Airport (LAX), then turns southeast through the South Bay area before ending at Watson Yard in the Wilmington neighborhood of Los Angeles.

Prior to 2002, the Harbor Subdivision was a busy freight corridor – the main access for the BNSF Railway into the ports of Los Angeles and Long Beach. At its peak, the Harbor Subdivision carried over 25 trains per day. However, with the opening of the Alameda Corridor – a grade-separated and freight-dedicated ROW -- in 2002, most freight service was shifted off the Harbor Subdivision ROW. Today, freight service along the corridor is limited, with zero to four local trains operating along parts of the ROW each day. In its current state, the Harbor Subdivision is largely underutilized.

Since the opening of the Alameda Corridor, there has been an opportunity for the Harbor Subdivision to be used for another purpose – transit service. Metro purchased the Harbor Subdivision ROW in the early 1990s with the intention that the corridor could eventually be used for transit service. In 2008, Metro embarked on an AA Study that commenced the project development process.

The purpose of this paper is to document the transition of the Harbor Subdivision from a heavily used freight rail corridor to a corridor that will primarily be devoted to transit service (with limited freight service). This paper will describe the history of the Harbor Subdivision Corridor in greater detail, the Metro Harbor...
Subdivision AA Study and related challenges and findings. Additionally, this paper will briefly cover the preparation of the subsequent South Bay Metro Green Line Extension Draft EIS/EIR and more specifically, the Freight Track Alternative. The paper will conclude with a discussion of the importance of the Harbor Subdivision Corridor within Southwestern Los Angeles County and the lessons learned from the study of various transit alternatives along the formerly freight-dominated Harbor Subdivision Transit Corridor.

HARBOR SUBDIVISION: A HISTORY

Harbor Subdivision Purchase

The former Los Angeles County Transportation Commission (LACTC) purchased the majority of the Harbor Subdivision, the mainline of the former Atchison Topeka & Santa Fe (ATSF) Railway between downtown Los Angeles and the Ports of Los Angeles and Long Beach, in 1992 and 1993. As part of the agreement, ATSF retained the right to provide freight rail service on the portion of the line owned by the LACTC, and LACTC retained the right to operate passenger service on the line. Metro, the successor agency to the LACTC, owns not only the ROW, but also the tracks and other improvements on the property. The purchase agreement included provisions allowing the BNSF Railway, the successor railroad to the ATSF, to continue to use the route only for local originating and terminating traffic after the opening of the Alameda Corridor. Through freight trains along the entire Harbor Subdivision are no longer allowed to operate.

Opening of the Alameda Corridor

The Alameda Corridor is a grade-separated, consolidated freight rail corridor paralleling Alameda Street from downtown Los Angeles to the Ports of Los Angeles and Long Beach. After its opening in 2002, the Alameda Corridor has served as the main access route for freight railroads to the ports. This has allowed the many BNSF freight trains previously serving the ports to be diverted to the Alameda Corridor from the Harbor Subdivision, which is now only served by local trains. Per the Alameda Corridor Use and Operating Agreement, the Harbor Subdivision cannot be used as a detour route if problems occur along the Alameda Corridor. Thus, the Harbor Subdivision is not expected to regain any through freight movements into the future, making future transit service along the corridor quite viable.

METRO HARBOR SUBDIVISION ALTERNATIVES ANALYSIS

Metro initiated an AA Study in 2008 for the Harbor Subdivision Transit Corridor. An AA Study is the first step of a project development process that is required to complete the planning, environmental clearance, engineering design and construction of a large-scale transit project. The primary goal of the Harbor

Figure 1. Harbor Subdivision and Surrounding Transit Lines
Subdivision AA was to identify, evaluate, compare and prioritize potential transit services suitable for the corridor.

**Process and Alternatives**

Upon initiation, the AA Study analyzed both existing and forecast transportation conditions within the Study Area and detailed a range of project objectives designed to address specific mobility problems. A large number of transit alternatives were subsequently identified. The alternatives evaluation process for the AA Study was divided into two stages: a Stage I Initial Screening and a later Stage II Comparative Evaluation.

The Stage I Initial Screening process included the evaluation of various route and terminus options, transit technology options and potential travel markets against a set of defined criteria to eliminate those options with significant flaws. Many of these initial options were eliminated during the Stage I analysis due to factors including limited ridership potential, operational constraints, physical / ROW constraints and/or community impacts.

Following the Stage I Initial Screening, four Build Alternatives incorporating the various routing/terminus options, transit technologies and travel markets were advanced into a more detailed Stage II Evaluation. Two of these alternatives were best-suited for Light Rail Transit (LRT)-compatible technology, which can be described as smaller vehicles which typically serve local trips, travel at moderate speeds and stop frequently at stations located in close proximity (approximately every mile). These alternatives included:

- **Local North Alternative**: On-street operations along the Metro Blue Line/Alameda Street from Los Angeles Union Station (LAUS) to the Slauson Corridor where it would connect to the Harbor Subdivision ROW and travel west to the LAX area.

- **Local South Alternative**: Service along the Harbor Subdivision from the LAX area south through Lawndale, Redondo Beach and Torrance in the South Bay. The alternative would then transition to on-street operations to San Pedro via Gaffey Street or Vermont Avenue/I-110 and/or Long Beach via Sepulveda Boulevard/Willow Boulevard or the Pacific Coast Highway.

In contrast, the remaining two alternatives were well-suited for freight-compatible technology (although LRT-compatible technology was also examined for both alternatives). Freight compatible technology can be described as larger vehicles that serve regional trips, travel at high speeds and stop relatively infrequently, allowing stations to be located further apart (approximately every four miles). These alternatives included:

- **Regional Alternative**: Service along the entire length of the Harbor Subdivision Corridor from LAUS to the Harbor Subdivision ROW via the

![Figure 2. Build Alternatives Analyzed](image-url)
Los Angeles River Corridor and along the Harbor Subdivision ROW to San Pedro via Vermont Avenue/I-110.

- **Express Alternative**: Non-stop service between LAUS and LAX. From LAUS, the alternative would proceed south via the Los Angeles River Corridor and connect to the Harbor Subdivision and proceed west, ending in the Central Terminal Area of the LAX airport.

The Stage II evaluation applied a wide range of criteria to compare the performance of the four Build Alternatives against each other as well as against the No Build Alternative, which represented the existing corridor with all funded transportation improvements, and the lower-cost Transportation Management (TSM) Alternative, which represented transportation improvements to existing transportation facilities. Key criteria for the Stage II evaluation included transportation system performance, cost effectiveness, environmental benefits/impacts and community acceptability.

**Challenges**

There were many challenges associated with the Harbor Subdivision AA Study. For one, the sizable length of the Harbor Subdivision corridor led to a very large number of project alternatives. Secondly, the Harbor Subdivision has many at-grade crossings, which not only have major implications for speed and safety in the corridor, but also for the cost of some of the alternatives examined. Additionally, the potential implementation of transit service along a corridor with existing freight movements introduced Federal Railroad Administration (FRA) compatibility issues.

**Transit Alternatives**

Because the Harbor Subdivision is approximately 26 miles long and crosses through 12 cities, a large number of transit options were initially identified to utilize the Harbor Subdivision and potentially connect beyond the Metro-owned ROW to activity centers such as LAUS, the downtown Los Angeles area, LAX, central Torrance and the South Bay and the Harbor areas of San Pedro and Long Beach. In fact, 25 route and terminus options were initially examined, in addition to six modal options and five potential travel markets. Because this was an especially large number of options and potential combinations, a special effort was made to organize and group the many initial options under simpler, broader Build Alternatives.

Each Build Alternative had three components: route/terminus options, modal options and potential travel markets served. These Build Alternatives were primarily differentiated by corridor geography – north, LAX, central and south corridor. Thus, the appropriate routing and terminus options and travel markets served were distributed to each geographic area, and the appropriate modal options were then specified for each. Certainly, four larger Build Alternatives were more easily understood than numerous stand-alone routing/terminus, modal and travel market options.

**At-Grade Crossings**

The Harbor Subdivision corridor is crossed by many streets, railroads and other public and private facilities along its length. This includes 96 at-grade crossings, with nearly 70 of these located in the northern half of the corridor between downtown Los Angeles and LAX. At-grade crossings not only have major implications for speed and safety in the corridor, but often require complicated treatments and are very expensive. The cost of at-grade crossings can very easily render certain transit improvements infeasible.

The Harbor Subdivision AA Study found that while many of at-grade crossings along the corridor are minor streets that carry low volumes of traffic and could potentially be closed, there are likely some crossings that would need to be upgraded or grade separated before transit service could be introduced along the corridor. These upgrades and potential grade separations would be very costly. In fact, the many at-grade crossings present in the northern portion of the Harbor Subdivision rendered the Express Alternative infeasible for shorter term development. Because the alternative would strive to provide high-quality non-stop service between downtown Los Angeles and LAX, complete grade separation likely would be required (which would be very costly).

The AA Study also concluded that at-grade crossings are less numerous through the South Bay, but that the area still required ample additional analysis to determine the extent of treatments and upgrades needed.

**FRA Compatibility Issues**

Freight traffic along the Harbor Subdivision is concentrated in the South Bay and Harbor area, with additional service in the Vernon area and limited or no service in the central segment of the ROW. Although limited freight service only operates in parts of the Harbor ROW.
Subdivision Corridor, it is Metro’s responsibility to preserve local freight service.

Where the Harbor Subdivision ROW is generally wide (typically 50 to 100 feet in approximately 2/3 of the corridor), there is ample room for separate freight and passenger services (one freight and two transit tracks). In areas less than 50 feet wide, there is not enough room for separate freight and passenger services and thus the services would have to share track, or additional ROW would have to be purchased. In addition to ROW width, track configuration is very much dependent upon transit mode chosen.

Six modal options were initially investigated in the Harbor Subdivision AA. These included three LRT-Compatible modal technologies including Bus Rapid Transit, LRT and LRT-Compatible Self-Propelled Railcars (SPR) and three Freight-Compatible modal technologies including Freight-Compatible SPRs, Electric Multiple Units and Commuter Rail Transit.

Under existing Federal Railroad Administration (FRA) regulations, the smaller, slower-speed LRT-compatible modal technologies cannot operate on the same track at the same time as the more robust freight trains or the freight-compatible modal options (which can travel at higher speeds) due to differences in vehicle crashworthiness. In areas of the ROW that are wider than 50 feet, both LRT-compatible and freight-compatible guideways can be built with a physical barrier (such as fencing) to allow joint operations. In areas narrower than 50 feet, temporal separation is needed to operate LRT-compatible transit vehicles while also allowing for freight operations during off-peak periods; freight operations would likely be scheduled during the late night or early morning hours.

Freight-compatible modal technologies can however, operate on the same track at the same time as freight trains since all such vehicles are robust and have similar crashworthiness ratings. Sidings would be needed in some areas to allow for passing.

**Findings**

The Harbor Subdivision AA Study concluded that there is not a single project along the corridor that meets all of the diverse travel market needs; the Harbor Subdivision is best suited for a program of alternatives that serves multiple markets throughout the Study Area. The recommended strategy reflected this programmatic orientation and also addressed how specific projects (and minimum operating segments) could be phased over time.

The Stage II Evaluation of the alternatives resulted in the following major conclusions:

- The Local South Alternative from the existing Metro Green Line terminus in Redondo Beach to the proposed Torrance Regional Transit Center (RTC) performed the best of any alternative segment. The segment is expected to provide significant transportation system benefits with fewer environmental impacts compared to the other alternatives examined.

- Segments of the Regional and Local North Alternatives along the Slauson Corridor did not perform as well as the Local South Alternative. There is a dense, transit-dependent neighborhood along Slauson Avenue that is a very attractive transit market, but constrained ROW and a large number of at-grade crossings would have negative effects on cost effectiveness and cause many environmental impacts.

- The Regional Alternative between LAUS and LAX best utilizes existing infrastructure in the corridor.

- The Express Alternative performed well enough to merit potential future study, but the costs of grade separating the alignment through Los Angeles and Inglewood along with the non-stop operation between LAUS and LAX lowers the alternative’s cost-effectiveness and community acceptability.

- Off-corridor Alternatives / Options generally did not perform well in the Stage II Evaluation since once leaving the Harbor Subdivision ROW, the cost per mile generally increases and cost effectiveness and environmental impacts worsen. Some off-corridor options, such as the Local North along the Metro Blue Line / Alameda Street and Local South along Normandie Avenue / Gaffey Street or Pacific Coast Highway have ratings low enough to recommend their elimination from future consideration. However, several off-corridor options are recommended for further study, including the Local South and Regional Alternatives to San Pedro via I-110 and the Local South Alternative to Long Beach via Sepulveda / Willow.

Based on these conclusions, the Harbor Subdivision AA Study published a phased implementation strategy for the Harbor Subdivision Transit Corridor:
Priority I:
- Local South Alternative – Metro Green Line to Torrance RTC

Priority II (not in rank order):
- Regional Alternative – LAUS to Vermont/I-110
- Local North Alternative – Metro Blue Line to Crenshaw Blvd

Priority III (not in rank order):
- Local South Alternative: Torrance RTC to San Pedro via I-110
- Local South Alternative: Torrance RTC to Long Beach via Sepulveda / Willow
- Regional Alternative: Vermont/I-110 to San Pedro
- Express Alternative: LAUS to LAX

The implementation of Priority II and/or Priority III projects would largely be dependent upon the availability of funding and the prior or potential implementation of other transportation-related investments.

In December 2009, the Metro Board approved the findings of the Harbor Subdivision AA Study and approved the preparation of a Draft EIS/EIR for the top priority Local South Alternative. To be more descriptive, the Metro Board also changed the name of the project to the South Bay Metro Green Line Extension.

SOUTH BAY METRO GREEN LINE EXTENSION DRAFT EIS/EIR

Metro initiated a Draft EIS/EIR for the South Bay Metro Green Line Extension in January 2010. The Study Area for the Metro Green Line Extension is a small portion of that examined in the Harbor Subdivision AA. The Study Area follows the Harbor Subdivision ROW from the intersection of Century and Aviation Boulevards in the LAX area to the proposed Torrance RTC. The Study Area contains eight cities, including Lawndale, Redondo Beach and Torrance, in addition to portions of unincorporated Los Angeles.

Four alternatives were initially examined in the Draft EIS/EIR. Similar to the AA Study, the No Build Alternative represents existing conditions in the (refined) Study Area in addition to funded transportation improvements. Likewise, the TSM Alternative represents lower-cost capital and operational improvements to existing transportation infrastructure. However, this refined TSM Alternative also includes the addition of a Metro Rapid bus line that roughly corresponds to the Build Alternatives.

Before the elimination of one Build Alternative, the Build Alternatives were referred to as the Light Rail Alternative and the Freight Track Alternative. The Light Rail Alternative represents a Metro Green Line extension from the current terminus at Redondo Beach (Marine) to the Torrance RTC utilizing LRT vehicle technology.
The Freight Track Alternative represents a new transit service that would operate from Century and Aviation Boulevards in the LAX area to the proposed Torrance RTC utilizing SPR vehicle technology along the upgraded Harbor Subdivision freight track.

**Screening of Freight Track Alternative**

The Freight Track Alternative was initially included in the Draft EIS/EIR, as it offered to provide transit service in the South Bay while utilizing existing infrastructure. It was initially believed that this alternative could be implemented in less time and at a lower cost than the Light Rail Alternative.

The Freight Track Alternative was proposed to operate along the upgraded Harbor Subdivision freight track at 15-minute headways (less frequent than the Light Rail Alternative due to the presence of just a single freight track). Either a “light” SPR (formerly referred to as an LRT-Compatible SPR) or a Freight-Compatible SPR vehicle technology would be employed. If a light SPR vehicle technology was chosen, freight service would be pushed to the late night or early morning hours since the transit vehicles would be smaller and less robust in comparison to the freight trains; the crashworthiness of the transit vehicles and freight trains would differ. If a Freight Compatible SPR was chosen, transit and freight service could operate on the same track simultaneously, with the appropriate sidings constructed. Neither the light nor freight-compatible SPR technology would be compatible with the LRT technology of the existing Metro Green Line, and a transfer would be required between the two services.

Some of the limitations of the Freight Track Alternative (longer headways, for instance) were known at the outset of the Draft EIS/EIR. But, it was not until later that preliminary ridership and operations analysis revealed that more South Bay trips were destined for areas outside of the Study Area than previously anticipated, making it necessary for many riders to transfer to the existing Metro Green Line. Intra-South Bay trips would also require more frequent service to meet travelers’ needs than what could be provided by the Freight Track Alternative. Additionally, a preliminary grade crossing analysis revealed that the Freight Track Alternative would need to be grade separated in select areas and this made the cost similar to the Light Rail Alternative, but with much lower ridership.

It was for these reasons that the Freight Track Alternative didn’t perform nearly as well as the TSM and Light Rail Alternatives. In January 2011, the Metro Board approved screening the Freight Track Alternative from further analysis. The alternative will be excluded from the Draft EIS/EIR. However, the remaining alternatives (No Build, TSM and Light Rail Alternatives) will be discussed in full detail in the Draft EIS/EIR, which is scheduled for completion in late 2011.
IMPORTANCE OF THE HARBOR SUBDIVISION

The Harbor Subdivision Corridor is especially significant in Los Angeles County since three Metro transit projects are proposed to utilize at least some portion of the ROW. In addition to the South Bay Metro Green Line Extension, the Metro Crenshaw/LAX Corridor and the Metro Green Line to LAX Extension are slated to use portions of the Harbor Subdivision ROW.

Each of these three transit projects are partially funded by Measure R, a sales tax measure passed by Los Angeles County voters in 2008. The passage of Measure R has sparked a recent effort to prioritize future projects in Los Angeles County, and the implementation strategy for the Harbor Subdivision is a key component of this process.

LESSONS LEARNED

Several important lessons can be gleaned from the ongoing transition of the Harbor Subdivision from a freight corridor to a primarily transit-oriented corridor with limited freight service. The experience of the Harbor Subdivision shows the importance of the development of a long range plan for a transit corridor with short, medium and long range goals, early ROW purchase by the local transit agency, early coordination with the railroads that maintain freight service in the area the consideration of adjacent land uses and the early development of transit projects along former freight ROWs. These lessons can be applied to other transit projects that are proposed to operate on former or existing freight corridors.

Early ROW Purchase

The Harbor Subdivision Corridor is an example of how the early purchase of ROW can reduce the cost of transit projects and simplify transit planning in later years. As previously mentioned, Metro bought the Harbor Subdivision ROW in the early 1990s with the intention of eventually using it for transit service. Although Metro did not begin to seriously evaluate the corridor until 2008, it was very beneficial that Metro had already purchased the ROW. For one, it is likely that the purchase price of the ROW would have been much higher if Metro had purchased the corridor more recently. Additionally, if Metro had waited to purchase the ROW, it is possible that the railroad would have no longer been willing to sell.

The presence of an already-purchased ROW also simplifies transit planning because fewer street-running or underground segments are needed. Street-operating and underground transit services often have greater environmental impacts and much higher price tags than do services operating in an existing ROW. Other Metro transit projects such as the Westside Subway Extension, Crenshaw/LAX Transit Corridor and Gold Line Eastside Extension Phase II are examples of transit projects that are more complex and expensive because they require extensive street-running or underground segments.

Development of a Long Range Plan

One lesson that can be learned from the Harbor Subdivision is that it is imperative to develop a long range plan for a transit corridor. A long range plan with short-, medium- and long-term goals can offer transit agency guidance over the years, based on corridor needs identified early in the project development process.

The Harbor Subdivision AA Study was successful in developing a comprehensive long range plan for the Harbor Subdivision Corridor. The AA Study began with a thorough analysis of existing conditions in the corridor and from this evaluation Metro identified the most significant corridor needs. Metro then developed a vast array of transportation alternatives based on these needs and an extensive evaluation of these alternatives led to the eventual development and recommendation of a program of alternatives, prioritized and slated for development over time.

As previously mentioned, the Local South Alternative to Torrance, also known as the South Bay Metro Green Line Extension, emerged from the Harbor Subdivision AA as the highest priority project. Because this project proposes to extend existing transit infrastructure, is expected to provide a viable transit alternative to the I-405 travel market and has good cost effectiveness, available Measure R funding and public support, etc., it was seen as the most practical alternative for short-term development. Other viable alternatives that would have many benefits but would also have sizable costs are slated for mid-term development. An example of this is the Local North Alternative, which would serve transit-dependent communities but would be inhibited by ROW constraints and numerous at-grade crossings. Alternatives such as the additional extension of the Metro Green Line further south from Torrance to either San Pedro or Long Beach are slated for long-term development, since they are only viable after other planned transit projects are constructed and additional funding becomes available. This implementation strategy will likely guide Metro in the coming years when the
agency begins to look beyond the current projects selected for development in the short term.

**Early Coordination with Railroad**

The Harbor Subdivision shows that it is especially important for transit agencies to engage in early coordination with the railroads that maintain freight service in the corridors they are considering for transit use. The needs of a railroad are vastly different than the needs of a transit agency. If the transit agency fails to coordinate with the railroad, the agency runs the risk that their conceptual designs will be unsuitable in terms of the railroad’s needs. If the transit agency engages the railroad early in the project development process, the agency can ensure that the needs of the railroad are met. The transit agency must make a good faith effort to minimize impacts to the railroad’s operations and customers and ensure that the railroad has the capacity to accommodate new customers in the future. Additionally, early coordination will likely strengthen the relationship between transit agency and railroad.

**Consideration of Adjacent Land Uses**

The Harbor Subdivision also shows that when planning transit service in former or current freight corridors, ample consideration must be given to adjacent land uses. If residential land uses are located adjacent to existing ROWs, they may not be as receptive to new transit service as other land uses. Transit agencies must be willing to work with these communities to address all concerns.

Some land uses, such as commercial uses including retail and office space, are more accepting and supportive of the prospect of new transit service since transit could help customers and employees travel to and from these commercial destinations. Industrial uses, which are common along existing railroad ROWs, are also supportive of incoming transit service for similar reasons, or could offer opportunities for redevelopment.

The presence of residential land uses (especially high-density residential uses) within walking distance (1/4 mile) of transit is also often desirable, since transit offers to increase accessibility and mobility for residents. However, the prospect of new transit service often sparks concerns for the residents living immediately adjacent to the proposed transit corridor. Common concerns include environmental impacts such as noise and vibration, visual impacts, safety and security in addition to transportation impacts.

Low- and high-density residential uses are located adjacent to certain portions of the Harbor Subdivision Corridor – namely in the Lawndale and Redondo Beach area of the South Bay. Community concern over the environmental impacts that could be caused by the implementation of transit service has been the topic of many community outreach meetings, especially since the commencement of the South Bay Metro Green Line Extension Draft EIS/EIR. Residents have grown used to declining freight traffic over the years and are concerned that the implementation of new transit service will decrease their quality of life. Metro has been diligent in working with these communities to address their concerns. Many of these environmental impacts are currently being examined in the Draft EIS/EIR and all significant impacts, if any, will be mitigated.

**Early Development of Transit Projects**

Another lesson learned from the Harbor Subdivision is that communities who have lived for decades with frequent freight train service can very quickly get used to the reduction in freight traffic if trains are diverted to another corridor. Many residents along the Harbor Subdivision have lived with freight service for years, but once the Alameda Corridor opened in 2002, residents grew used to limited freight service and became less likely to support an increase in activity along the ROW, including smaller and quieter light rail transit trains. A rapid introduction of passenger train service along the corridor would likely have resulted in less opposition from residents adjacent to the corridor and a less contentious environmental process.

**CONCLUSION**

The Harbor Subdivision, a 26-mile long ROW in southwestern Los Angeles County currently provides much more than limited freight service. The Harbor Subdivision’s transition from a busy freight corridor to a transit corridor (with limited freight service) offers many lessons that can be applied to transit planning projects across the United States.

Transit agencies should consider Metro’s experience with the Harbor Subdivision Corridor when pursuing the purchase of active or inactive freight ROWs. The presence of an existing ROW can not only simplify project planning but reduce both capital costs and environmental impacts. Transit agencies can also use strategies similar to those used in the Harbor Subdivision AA study, especially when it comes to developing a long range plan for a corridor. The Harbor Subdivision AA established a comprehensive long range plan that
recommended a program of alternatives for implementation in the corridor in the short-, medium- and long-term.

In addition, the experience of the Harbor Subdivision also shows that transit agencies should seek to engage in early coordination with the railroads that continue to operate along the transit ROW. Early coordination can ensure that the railroads’ needs are met as transit service is implemented in the corridor. The Harbor Subdivision should also remind transit agencies to consider the land uses located adjacent to the transit ROW. If residential uses are located in close proximity, transit agencies must be willing to work the communities to address all environmental concerns.

Lastly, the Harbor Subdivision serves as evidence that the early development of transit projects along former freight ROWs is preferable to planning and development activities that take place over a series of years. Residents who have lived for decades with frequent freight service can get accustomed to reduced freight traffic very quickly and are therefore less likely to support the implementation of transit along the corridor.

Lesser-used freight corridors such as the Harbor Subdivision are excellent candidates for the implementation of future transit service in the Los Angeles area and across the country.