



Board Report

File #: 2024-0272, **File Type:** Project

Agenda Number: 30.

**REGULAR BOARD MEETING
MAY 23, 2024**

SUBJECT: PROPOSED PROJECT AND LOCALLY PREFERRED ALTERNATIVE FOR THE C LINE EXTENSION TO TORRANCE

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

CONSIDER:

- A. APPROVING the 170th/182nd Grade-Separated Light Rail Transit Alternative, also referred to as the Hybrid Alternative, as the Proposed Project for the Environmental Impact Report (EIR) and Locally Preferred Alternative (LPA) for the Metro C (Green) Line Extension to Torrance Project (Project); and
- B. AUTHORIZING the preparation of the Final EIR through the California Environmental Quality Act (CEQA) based on the LPA.

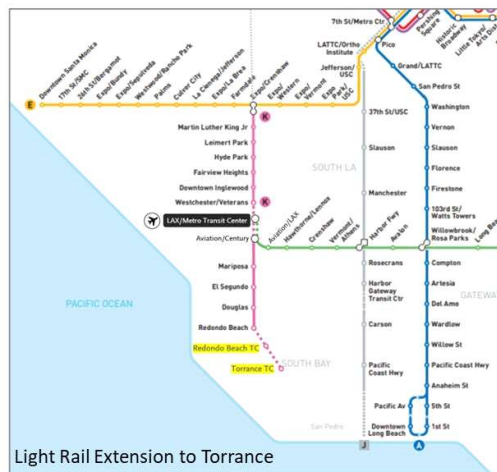
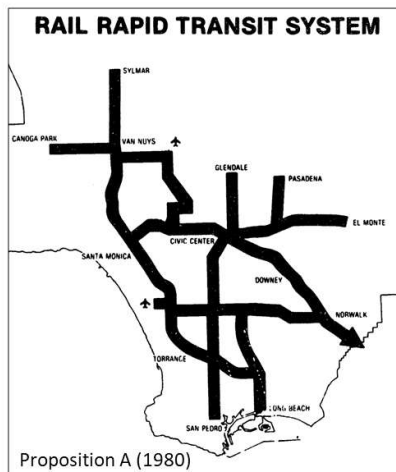
ISSUE

The South Bay lacks a fast, frequent, and reliable transportation option to connect the region to greater Los Angeles (LA) County. This unmet transportation need threatens the South Bay’s economic growth, exacerbates socioeconomic disparities across the County due to limited access to opportunities, and worsens environmental conditions due to auto-related pollutants, greenhouse gas (GHG) emissions, and energy use. The C Line Extension to Torrance is a critical piece of the rail network to connect people throughout LA County to and from the South Bay, facilitating access to jobs, services, and destinations within the region. Metro is leading the environmental study for the C Line Extension to Torrance Project and prepared a Draft EIR, which was released on January 26, 2023. Pursuant to CEQA, a single alignment (or Locally Preferred Alternative) must be selected by the Metro Board of Directors (Board) to finalize the definition of the Proposed Project and prepare a Final EIR.

BACKGROUND

The concept of a rapid rail connection to the South Bay was first envisioned in 1980 as part of

Proposition A, the first sales tax measure to fund the regional rail system. Connecting the rail network to the South Bay has been a long-term regional goal to provide a fast and reliable connection to the area, strengthening economic opportunities and reducing environmental impacts associated with projected auto use.



In 1993, Metro purchased the Harbor Subdivision corridor, a 26-mile freight rail corridor that connects Downtown LA to San Pedro, with the intent of expanding passenger rail access across LA County. In 1995, Metro opened the Green Line (now C line) that travels between Norwalk and Redondo Beach along segments of I-105 and the Harbor Subdivision corridor, referred to as the Metro Right of Way (ROW). In 2009, Metro completed a planning study to extend transit service to the Ports of San Pedro Bay and Long Beach, using the Metro ROW, while maintaining existing freight service operated by railroads. The 2009 Study identified the segment between Redondo Beach and Torrance as the top priority for rail service. Over the years, Metro has led additional planning studies to advance the Project, based on the funding available.

The Project was allocated funding from voter-approved Measure R in 2008 (\$272 Million), Measure M in 2016 (\$619 Million), and a state grant in 2018 (\$231 Million) from the California State Transportation Agency (CalSTA). The Measure M Expenditure Plan identified 2030-2033 as the opening year for the Project. In 2018, the Board authorized Metro to begin environmental clearance for the Project.

On January 29, 2021, Metro published a Notice of Preparation (NOP) to solicit public comments on the scope, content, and information that should be considered as a part of the Draft EIR for a proposed light rail transit line that would extend approximately 4.5 miles from the end of the existing Metro C Line in Redondo Beach southeast to Torrance. Metro held an agency-specific scoping meeting on February 23 and two public scoping meetings on February 24 and 27 during a 60-day comment period, which ended on March 29, 2021. All scoping meetings were held virtually via Zoom due to LA County Safer at Home orders during the COVID-19 pandemic.

On January 26, 2023, Metro released a Draft EIR, which describes the “Proposed Project” as a light rail extension with elevated and street-level (at-grade) sections traveling primarily along the Metro-owned ROW, from the Metro Redondo Beach (Marine) Station to the new Mary K. Giordano Regional Transit Center (Torrance Transit Center) through the cities of Lawndale, Redondo Beach, and Torrance. The Draft EIR discloses potential environmental impacts generated by the Proposed Project and mitigation measures to reduce or eliminate impacts. The document also evaluates two Options in the north: the Trench Option, which travels below street level along the Metro ROW, and the Hawthorne Option, which travels along I-405 and Hawthorne Blvd. South of 190th Street, all three alignments (Proposed Project, Trench Option, and Hawthorne Option) are the same and terminate at the Torrance Transit Center, which provides bus connections to the greater South Bay and Palos Verdes Peninsula. The three light rail alignments were studied at equal levels of detail with no preference identified. The Draft EIR also identified three “Alternatives to the Proposed Project” as required by CEQA, that would lessen or avoid significant Project-related impacts, including: the Hybrid Alternative, a High Frequency Bus Alternative, and a No Project Alternative.

In addition to the Draft EIR, Metro published several other reports analyzing the rail alignments including ridership, user benefits, cost, schedule, real estate needs, changes to traffic and parking, and other technical issues. Metro collected approximately 2,200 public comments on the Draft EIR over a 61-day public comment period in early 2023, which included five public hearings (four in-person and one virtual).

In September 2023, staff provided a Receive & File Report and presentation to the Metro Board Planning & Programming and Executive Management Committees to summarize the key findings from the Draft EIR and technical reports, public comments received on the Draft EIR, input from stakeholder engagement, and results from a market research phone poll.

On September 27, 2023, Director Mitchell requested that Metro postpone a vote on an LPA for the Project so that her team could walk the alignments, host at least one public meeting with support from Metro, and approach state and federal partners about financial opportunities for the Project, given the considerable cost differences between the alignments studied. In December 2023, Metro supported Director Mitchell’s team to host a community walk of the alignments and a community meeting in January 2024 to discuss mobility conditions and visions for the future in small groups. Feedback received from these events is summarized and posted to the project website at www.metro.net/clineext <<http://www.metro.net/clineext>>.

DISCUSSION

Project Need & Benefits







The South Bay is a major job center in LA County and suffers from congested roadways and freeways, limited transit service, and high housing costs. The affordable housing crisis in LA County is exacerbating regional congestion with people commuting long distances to jobs because they cannot afford to live near their work and limiting economic mobility. Data from the Southern California

Association of Governments (SCAG) anticipates the jobs will grow twice as fast as the population, exacerbating the jobs-to-housing imbalance in the coming decades. Congestion is projected to worsen by 30% by 2045, which affects air quality, energy use, and greenhouse gas (GHG) emissions.

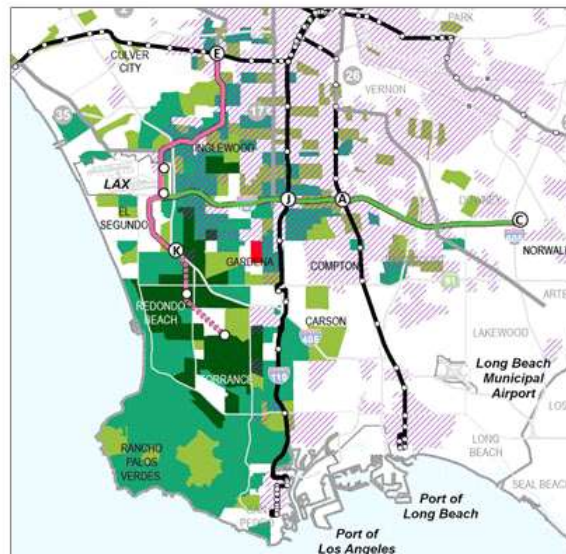
By providing a fast, frequent, and reliable transit option to the South Bay, the Project would improve environmental and economic outcomes across LA County and:

- Expand access to opportunities with ~3.6 million project boardings per year,
- Attract ~1.5 million annual new riders to the Metro system,
- Generate over 15,000 jobs (8,600 construction and 6,400 non-construction),
- Reduce travel times across the region,
- Connect two new bus transit centers to the expanding rail network,
- Help address climate change by shifting drivers to transit and reducing:
 - Auto Travel/Congestion: ~19.5 million vehicle miles traveled per year,
 - GHG emissions: ~2,370 metric tons of CO2 equivalent per year,
 - Regional energy use: ~41 million megajoules per year.

With the recent Metro Board-adopted K Line operating plan, the Project would serve as a southern extension of the K Line, providing travelers with a direct ride from Torrance to Los Angeles International Airport (LAX) in 19 minutes. The Project would provide significant travel time savings between the South Bay and greater LA and link many Equity Focus Communities (EFCs) to employment centers along the C, K, and E Lines. The Project benefits extend far beyond the Project area as seen in the green areas on the map below.

-   Expo/Crenshaw: 34.5 minutes
-  Downtown Inglewood: 23.5 minutes
-   LAX (AMC): 19 minutes
-  Torrance Transit Center (terminus)

Source: Metro, 2023, Travel Benefits Analysis in 2042. Green areas indicate travel time savings. Purple hatch indicates Equity Focus Communities (EFCs)



City Investments in Transit Centers along Metro ROW

Based on previous phases of planning for the Project, the Cities of Redondo Beach and Torrance each purchased land adjacent to the Metro ROW to construct new bus transit centers to connect to future Metro rail stations, approximately \$45 million of public investment combined. After two decades of planning, both transit centers opened in the spring of 2023. Both cities would like Metro to consider their transit investments in the bus centers as in-kind contributions to satisfy their 3% local match contribution for the Project. Following the selection of an LPA, Metro would begin coordinating with the cities on first and last mile planning (FLM) and analyze what elements of the recently constructed bus centers may be eligible to be considered as in-kind contributions to satisfy the 3% local match contribution per the Measure M Ordinance.

Environmental Review Process

Per CEQA, the EIR must include a well-defined Proposed Project to provide clarity to the public on the Project scope, potential environmental impacts, and mitigation measures. The selection of the LPA will be used to update the description of the Proposed Project, narrowing the study of multiple alignments to a single preferred alignment in the Final EIR with related mitigation measures. Project approval would occur after the completion and public release of the Final EIR, estimated to be typically 18-24 months after the LPA is selected. Metro is the Lead Agency under CEQA; therefore the Board has the authority to certify the Final EIR and approve the Project to advance toward implementation and pursue potential discretionary permits, reviews, and approvals.

Community Engagement and Common Themes

Metro has led extensive community engagement both in person and virtually during the environmental review process, working to share information with the community on the Project through videos, interactive websites, public meetings and briefings, to listen and learn about local concerns through neighborhood walks and transit rider intercepts, and to respond to questions and document feedback for transparency. To provide responses to common questions Metro has received at community events and forums, Metro developed a 18-page set of frequently asked questions (FAQs). The FAQs are available on the Project website, as are summary reports of all engagement events at metro.net/clineext. Feedback from community engagement has helped inform the staff recommendation. Staff will continue to update the FAQs and project materials to make project facts and information readily available. Per CEQA, Metro will formally respond to all comments provided during the Draft EIR public comment period in the Final EIR.

Winter 2023/24 Engagement with Director Mitchell

Per Director Mitchell's request to hold additional public engagement before the Board considers an LPA selection, Metro supported two community events. In December 2023, Director Mitchell and Metro hosted a neighborhood walk in Lawndale with approximately 200 community members, who walked in small groups along the proposed rail alignments (Metro ROW and Hawthorne Blvd) with facilitators to discuss concerns, share ideas, and ask questions.

Also led by Director Mitchell with Metro's support, in January, approximately 50 community members gathered for a visioning exercise at Springhaven, an affordable housing development located near the Metro C Line Willowbrook/Rosa Parks Station. This meeting was conducted in a "charette" format

where participants broke into small groups at tables to discuss questions about the future of the South Bay and related transportation needs and solutions. Prompts included: “As a 3rd grader who grows up living in the South Bay, what is working about transit in the South Bay and what is not?” and “After 20 years, our 3rd grader has grown up, what will they see where the C Line Extension site is located?” The questions helped spur a constructive discussion about the future of LA County and what types of investments are needed to make the South Bay more accessible and livable. Both events allowed community members with different viewpoints to listen to each other’s concerns and engage in dialogue. A summary of events and input received is available on the project website at www.metro.net/clineext <<http://www.metro.net/clineext>> and shared with stakeholders through our project newsletter.

Metro has reviewed the comments and questions from these events. Many of the comments touched on similar areas of concern to those received on the Draft EIR and at other forums of community input. Through listening to the discussion, Metro found that attendees placed a greater emphasis on protecting greenspace, safety for children and families to walk and cycle in neighborhoods, first/last mile improvements, and better mobility options to help spur economic development in the South Bay. This round of outreach also surfaced more questions related to construction near homes and the real estate process. Metro has a fact sheet on the real estate coordination and acquisition process for Metro projects on our website. Lastly, the feedback from recent community engagement demonstrated strong support for a rail extension to Torrance. Metro has worked to address major community concerns (e.g. noise, vibration, greenspace, safe streets, changes to properties and home values) through design strategies and mitigations in the staff recommendation.

In response to recent questions from the community, Metro has updated and added to our Project FAQs to provide responses and clarifications. For example, the FAQs clarify:

- Metro has experience building light rail in other residential neighborhoods in LA County and has worked with communities to mitigate noise and vibration through sound walls, special trackwork and other strategies, and create new walking/cycle paths with greenery to enhance access and neighborhood spaces.
- While the width of the Metro ROW varies from 75 feet to over 150 feet, there is sufficient width to fit the Project without acquiring residential properties. No homes are identified for acquisition in the Draft EIR.
- Existing freight tracks and crossings would be rebuilt and modernized with new trackwork and equipment to reduce noise and vibration and improve safety through a quiet-zone-ready corridor if the ROW was selected. This would eliminate existing freight horn noise in the neighborhood.
- Metro has met legal requirements under CEQA to appropriately address the headstone uncovered in Lawndale in September 2023 and any future discovery of human remains. The Draft EIR includes mitigation measures to address how to handle the discovery of human remains and/or burial sites during construction. Metro has experience with this scenario on other projects and will abide by all laws to maintain sanctity of any human remains and burial artifacts found in the Project corridor.
- Metro has evaluated ridership projections, project benefits and cost and prepared a cost/benefit summary below to respond to recent questions on cost effectiveness.

As part of the next phase of work, pending an LPA selection, Metro will conduct real estate surveys and perform geotechnical investigations to gather more information on subsurface conditions, property lines, easements, and encroachments to provide more information in the Final EIR and respond to public comments on the Draft EIR.

Alignments and Alternatives Studied in Draft EIR

As mentioned earlier, the Draft EIR evaluates three light rail alignments at equal levels of detail with no preference identified and three “Alternatives to the Proposed Project” as required by CEQA, that would lessen or avoid significant Project-related impacts. The Metro Board may select the Proposed Project, Options, or Alternatives as the LPA based on their comparative merits and impacts.

The table below provides a comparison of the Alignments & Alternatives studied in the Draft EIR to address community questions on ridership and travel benefits as they relate to cost.

- Project Trips: number of trips that use the new stations on the Project.
- New Riders: number of new riders who were not previously using transit and will use Metro transit based on the Project.
- VMT Reduction: reduction of auto use (vehicle miles traveled) due to Project.
- Travel Time Savings (User Benefit) /Trip: reduction of trip time for travelers throughout the transportation system with Project.
- Cost Per New Rider: Ratio of construction cost compared to annual new riders.
- Cost Per Project Trip: Ratio of construction cost compared to annual trips.
- Cost Per VMT Reduced: Ratio of construction cost compared to the annual reduction of vehicle miles traveled due to Project.

Comparison	Metro ROW (Elevated/ At-Grade)	Trench Option (ROW)	Hybrid Alt (ROW)	Hawthorne Option	High Frequency Bus Alt
Annual Project Trips	~3.68M	~3.68M	~3.68M	~4.96M	~1.29M
Annual New Riders	~1.49M	~1.49M	~1.49M	~1.74M	~396K
Annual VMT Reduction	~19.51M	~19.51M	~19.51M	~19.39M	~2.28M
Travel Time Savings/Trip (minutes)	22	22	22	19.7	18.2
Cost/ Annual New Riders	\$1,318	\$1,905	\$1,497	\$1,695	\$338
Cost/ Annual Project Trips	\$534	\$772	\$607	\$595	\$103
Cost/Annual VMT Reduced	\$101	\$146	\$115	\$153	\$59

Source: Metro (2024)

The following section describes the opportunities and challenges for the Alignments & Alternatives studied in the Draft EIR, summarizing key considerations in the table below. See Attachment A for a more detailed comparison.

ATTACHMENT C: Metro C (Green) Line Extension to Torrance
Comparison of Alignments & Alternatives Evaluated in Draft EIR

DRAFT March 20, 2024

SUMMARY TABLE

Comparison	Metro ROW (Elevated/At-Grade)	Trench Option (ROW)	Hybrid Alternative (ROW)	Hawthorne Option
Ridership	●	●	●	●
Auto Reduction & Travel Time Savings	●	●	●	●
Cost & Funding	●	○	●	○
Approvals & Key Agreements	●	●	●	●
Real Estate Needs	●	●	●	○
Constructability	●	○	●	○
Station Connections & TOD Potential	●	●	●	●
Safety Enhancements	●	●	●	●
Light Rail & Freight Noise Mitigation	●	●	●	●
Permanent Changes to Street & Parking	●	●	●	●

Harvey balls compare level of performance relative to the alignments & alternatives studied from high ●, medium ●, and low ○. Data from 2023 Draft EIR and technical studies. South of 190th Street, all alignments and alternatives are the same.

Source: Metro (2024)

Metro ROW Elevated/At-Grade Alignment: Travels along the Metro ROW for the entire 4.5-mile length with two new stations at the Redondo Beach Transit Center and Torrance Transit Center. All streets are grade-separated for light rail except for 170th and 182nd Street.

Opportunities: To address community interest in public greenspaces and concerns around noise and vibration, the alignment includes three neighborhood paths (one in each city) within the Metro ROW where feasible, noise and vibration reduction strategies, and mitigation measures including sound walls, special track work, and freight improvements to create a quiet-zone-ready corridor. A quiet zone corridor includes enhanced safety features at rail crossings to eliminate the need for freight trains to blow their horn (as required at 96 to 110 decibels) within a quarter-mile of every freight crossing. Metro would fund the construction of freight improvements and support local cities through the quiet zone corridor application and approval process with the California Public Utilities Commission (CPUC) and the Federal Railroad Administration (FRA). The Elevated/At-Grade ROW alignment requires the fewest acquisitions (approximately three parcels) to build as the construction would be staged within the Metro-own ROW. No residential properties are identified for acquisition. This alignment has the shortest construction schedule and lowest construction cost of the alignments studied (\$1.9B).

Challenges: The light rail travels through a residential community with two at-grade light rail crossings at 170th and 182nd Street, which are walking routes to elementary schools. The introduction of light rail would result in a long-term significant and unavoidable noise impact due to the light rail crossing gates and bells and less-than-significant delays to emergency responders. The CPUC reviewed the Draft EIR and recommended that Metro grade separate 170th and 182nd Street based on the increased frequency of train activity at the two light rail crossings and their proximity to schools. This alignment requires shifting the freight line closer to Breakwater Village (a senior living community between Artesia Blvd and Grant Ave) and would include relocation of underground utilities lines in some locations including gas, fiber, sewer, and a jet fuel line for LAX.

Trench Option: Travels along the Metro ROW with 1.8-miles of the alignment traveling below street level in an open-air trench, making this alignment fully grade-separated.

Opportunities: The grade separations avoid significant long-term noise impacts, potential delays to emergency responders, and shifting freight closer to Breakwater Village (a senior living community). Like the Elevated/-At-Grade alignment, the Trench Option would include neighborhood paths, noise and vibration strategies including sound walls and a quiet-zone-ready corridor. Acquisitions are minimal (approximately five parcels) as the construction would be primarily staged in the Metro ROW. No residential properties are identified for acquisition.

Challenges: Due to extensive excavation, the Trench Option would result in an air quality impact during construction. To avoid a major underground storm drain that cannot be relocated, the Trench Option would require deep excavation (between 35-45 feet below ground) in the northern section of

Lawndale. The Trench would include other underground utility relocations in some places including gas, fiber, sewer, and a jet fuel line. Excavation near residential properties while maintaining freight operations would be a slow and complex construction process, resulting in the longest construction schedule and second highest construction cost (\$2.84B). The high cost of the Trench Option would also likely require that Metro complete NEPA to be eligible for federal funding. Completion of NEPA could add approximately two to four years of environmental review and approvals.

Hawthorne Option: Travels within Caltrans ROW along the western embankment of I-405 before turning onto Hawthorne Blvd and traveling in the center median of the street, which fully grade separates this Option.

Opportunities: A single station along Hawthorne Blvd would be located south of Artesia Blvd, near the South Bay Galleria. Light rail noise would be mitigated with sound walls and special trackwork. This alignment has fewer homes adjacent to the light rail line and is located on a commercial corridor.

Challenges: The alignment encroaches into Caltrans ROW to avoid acquiring residential homes near I-405. Caltrans also has jurisdiction over sections of Hawthorne Blvd, which is a state highway (Route 107) with an average daily traffic (ADT) of 70,000. The encroachment would require a longitudinal encroachment permit from Caltrans, which would require review and approval from the U.S. Department of Transportation (U.S. DOT) and Caltrans, and completion of federal environmental clearance under NEPA, which could add approximately two to four years of environmental review and approvals. Most of the construction would be staged in the street, reducing roadway capacity with lane closures, which would eliminate street parking in some areas and exacerbate existing traffic congestion over the five-to-seven-year construction period. There are approximately 170 businesses that front this section of Hawthorne Blvd. This alignment has the highest number of property acquisitions (~13 commercial parcels including an auto dealership, auto repair shops, self-storage site, furniture store, gas station, strip malls, and billboards). Several major utilities would need to be relocated, including an underground storm drain in the center of Hawthorne Blvd and three sets of overhead high voltage transmission lines that would need to be raised to avoid the elevated rail. The elevated structures and longer project approval process result in the highest construction cost of the alignments studied (\$2.96B), which would necessitate Metro to pursue federal funds. The Hawthorne Option would not include any improvements along the Metro ROW (e.g. freight noise, vibration and safety improvements, neighborhood paths). Lastly, the station would not directly connect to the new Redondo Beach Transit Center, which is a half-mile away.

Hybrid Alternative - Staff Recommendation for Proposed Project in EIR: The Hybrid Alternative is similar to the Elevated/At-Grade Alignment, which travels along the Metro ROW for the entire length. The Hybrid Alternative differs from the Elevated/At-Grade Alignment in that it includes two grade separations (under-crossings) at 170th Street in Lawndale and 182nd Street in Redondo Beach, resulting in a fully grade separated line.

Opportunities: The Hybrid provides direct connections to the new two transit centers in Redondo Beach and Torrance, including three new walking paths in the neighborhoods, and multiple noise and vibration reduction strategies (e.g. sound walls, special trackwork, freight improvements with quiet-

zone-ready corridor). The Hybrid has minimal acquisitions (approximately three parcels) as construction would be staged in the Metro ROW. No residential properties are identified for acquisition. The two proposed under-crossings at 170th and 182nd Street would eliminate long-term noise impacts, avoid potential delays to emergency responders, enhance safety along school routes, and improve operations with a fully grade separated line. The Hybrid Alternative also avoids shifting freight closer to the Breakwater Village senior living community, a key concern from community members.

Challenges: The Hybrid includes the same utility relocations as the Elevated/At-Grade Alignment. The two under-crossings add approximately one year to the construction schedule compared to the Elevated/At-Grade Alignment and would increase costs to \$2.23B.

High Frequency Bus (HFB) Alternative: The HFB Alternative would provide a bus route between the Redondo Beach (Marine) Station and Torrance Transit Center with four new bus stops and 10-minute service during peak periods.

Opportunities: The HFB Alternative would have a shorter construction period and lower cost than light rail at \$134M and avoids noise impacts, acquisitions, and major utility relocations.

Challenges: The HFB would not have the same capacity as rail to support anticipated growth in the South Bay, putting additional strain on the transportation network. The HFB Alternative would operate on congested city streets with a level of service (LOS) between C and F and congestion is anticipated to worsen with future growth in the region, reducing travel time. Rail attracts 65% more transit trips and results in 88% greater reduction of auto use (VMT) to help reduce air pollution and GHG emissions, which contribute to climate change.

No Project Alternative: The No Project Alternative assumes no transportation project is implemented to connect the Redondo Beach (Marine) Station to the Torrance Transit Center.

Opportunity: Avoids construction disruption and related potential environmental impacts.

Challenges: Fails to address the Project need and objectives of meeting future travel demand and improving mobility and expanding access to the South Bay. The No Project Alternative could result in a loss of the \$231 million TIRCP grant, intended for a transit project as Metro would not be advancing the Project in good faith per the award.

Staff Recommendation for Locally Preferred Alternative

The staff recommendation was developed to maximize benefits (both for the immediate neighborhoods and greater region) and minimize risks for successful Project implementation. At a regional level, the Hybrid Alternative connects to the South Bay to the rail network, expanding access to jobs, housing, schools, and daily needs. At a local level, the Hybrid Alternative provides several benefits to the adjacent neighborhoods including: two new rail stations with direct connections to regional bus transit centers, three new neighborhood walking paths where sidewalk lack today, and a safer, quieter freight line where BNSF operates today. The Hybrid Alternative is designed to respond

to community concerns and minimize construction disruptions and long-term impacts to the community. Below is a summary of how the Hybrid Alternative addresses community input received during public engagement and public comment on the Draft EIR:

- **Easy access to transit:** Provides direct and convenient rail access to the newly constructed bus centers in Redondo Beach and Torrance for seamless bus-to-rail transfers, leveraging approximately \$45 million of recent public investment.
- **Limited real estate needs:** Minimizes property acquisitions as the majority of construction would occur on Metro property (Metro ROW). No residential homes have been identified for acquisition.
- **No changes to parking and traffic:** Avoids changes to streets and parking with fully grade-separated light rail.
- **Public space, landscaping, and greenery:** Provides three new neighborhood paths (over 1.2 miles) along the rail corridor (one in each city) to include trees, landscaping, and lighting to improve pedestrian walkability, safety, and neighborhood access and community spaces where sidewalks are lacking today. Metro will work with communities on the design of the neighborhood paths.
- **Safe routes to schools:** Enhances safety for families walking between home and school by locating light rail below the street level to avoid interfacing with pedestrians, cars, and cyclists at 170th and 182nd Street.
- **Reduces noise & vibration impacts:** Eliminates a potentially significant and unavoidable noise impact to homes near 170th Street with light rail under-crossing, and mitigates light rail noise and vibration through sound walls and special trackwork along the corridor.
- **Improves existing freight:** Reduces existing freight horn noise and vibration along the corridor and improves freight rail safety by modernizing eight freight crossings with new quad gates, trackwork and other upgrades to be quiet-zone-ready.
- **Avoids freight relocation near sensitive uses:** Avoids shifting freight to the west between Artesia Blvd and Grant Ave, which was a key concern for residents at Breakwater Village, a senior living community.
- **No delays to emergency responders:** Eliminates potential delays to emergency responders at 170th and 182nd Street with light rail grade separations to allow vehicles to pass along these streets without interfacing with light rail service.
- **Privacy:** Lowers the grade (height) of the light rail tracks south of 182nd Street to be less visible to adjacent homes in Redondo Beach based on community input. Metro will work with communities on the design of sound walls to further serve as privacy elements.
- **Safety and security:** Includes the development of a safety and security plan, in partnership with the cities and law enforcement to meet Metro station and end-of-line needs.

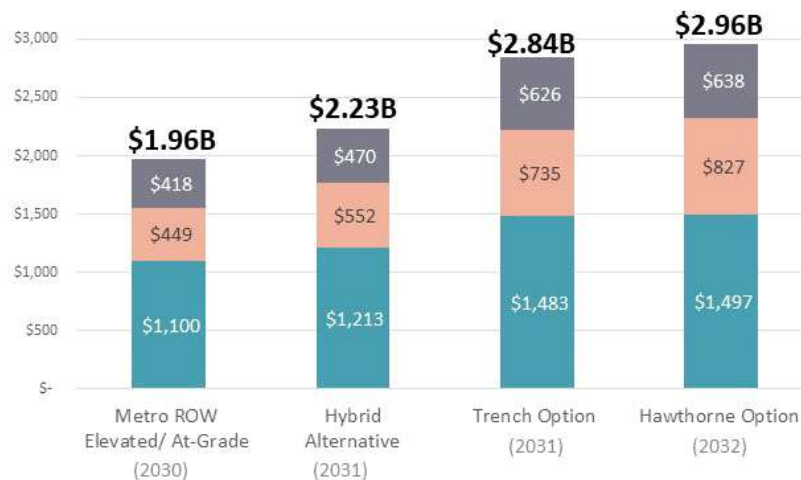
Cost Estimates & Construction Schedule

The Hybrid Alternative is estimated to cost approximately \$2.23 billion when escalated to 2031 (midpoint of construction) with 2034 as the anticipated opening year. The cost estimates were developed by two professional cost-estimating firms with support from the Metro Cost Estimating Department. The cost estimates include three key components and follow the Federal Transit Administration (FTA) based on the early level of design:

- 1) construction costs in 2022\$ including labor, materials, professional services,
- 2) escalation (3.5% annual assumed) to the midpoint of construction, and
- 3) contingency (~40%) to account for known and unknown project risks.

The two recommended grade crossings at 170th and 182nd Streets add approximately one year to the construction schedule and increase the construction cost by approximately \$113 million (or \$270 million including escalation and contingency) compared to the ROW Elevated/At-Grade Alignment. However, the additional cost for the two grade separations delivers multiple long-term benefits for the community (reduced noise and vibration, enhanced safety) and improves overall operations and maintenance for Metro with a fully grade-separated light rail line. The cost estimates will be updated as part of the next phase of design, and the recommended contingencies will be revised based on more detailed engineering and risk assessment.

Follows FTA Guidance
 Based on 15% Design
 Blue= 2022\$ Costs
 Orange = Escalation 3.5%
 GREY = Contingency (~40%)
 Escalation is set to midpoint of construction, which varies by alignment. Contingency varies by SCC code.
 Cost estimate is assigned an accuracy range with upper limit of 30%, based industry best practices. As design advances, cost estimates will be updated.



Source: Metro (2024)

Project Schedule Comparison

	Measure M (2030-2033)													
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Metro ROW (Elevated/At-Grade)	CEQA		Design/ RE / Contract Award		BNSF & Utility Relocation		Construction					Fall 2033		
Trench Option	CEQA		Design/ RE / Contract Award		BNSF & Utility Relocation		Construction							Winter 2036
Hawthorne Option	CEQA		Caltrans PA&ED		Design/ RE / Contract Award		BNSF & Utility Relocation		Construction					Fall 2035
Hybrid Alternative	CEQA		Design/ RE / Contract Award		BNSF & Utility Relocation		Construction					Winter 2034		

Schedule prepared in 2023 and will be updated pending Metro Board selection of a preferred alignment (Locally Preferred Alternative)

Project Schedule*	Measure M (2030-2033)													
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Metro ROW (Elevated/At-Grade)	CEQA		Design/RE Contract Award		BNSF & Utility Relocation		Construction					Sep-33		
Metro ROW (Hybrid) Alternative	CEQA		Design/BID/RE Contract Award		BNSF & Utility Relocation		Construction						Dec-34	
Trench Option	CEQA		Design/RE Contract Award		BNSF & Utility Relocation		Construction							Jan-36
Hawthorne Option	CEQA		Caltrans PA&ED		Design/RE Contract Award		BNSF & Utility Relocation		Construction					Sep-35

Source: Metro (2023)

Abbreviations: CEQA: California Environmental Quality Act, BID: Bidding process for contract; RE: Real Estate, PA&ED: Project Approval and Environmental Document

Project Funding Strategy

The Project has secured funding from Measure R, Measure M, Senate Bill (SB) 1, a Transit & Intercity Rail Capital Program (TIRCP) grant, and 3% local contributions. While Measure M funds escalate over time, Measure R, SB1, and the TIRCP funds do not. For the staff-recommended Hybrid Alternative, the current cost estimate in the year of expenditure dollars exceeds the amount of secured funding. To bridge the funding shortfall for the Hybrid Alternative, if selected as the LPA, Metro would seek additional funding from existing state grant programs and the use of existing local sales tax funds. Further transfers of local funds may also be required, given the uncertainty regarding the amount of state grant funding. This can happen if either grant applications are not successful or are less than the amount requested.

The table below outlines potential sources to explore at the local, state, and federal levels to fill the gap for the various rail alignments studied. Because the Project has not been federalized, which would involve additional requirements that have time and cost implications, it is not currently eligible

for federal funding. The high cost of the Trench and Hawthorne Options would likely necessitate that Metro pursue federal funding. This would require Metro to complete federal environmental documentation per NEPA in coordination with the FTA. Completing NEPA and coordinating with the U.S. DOT and Caltrans would add approximately two to four years for environmental review and the FTA project development process.

Funding Strategy	Metro ROW (Elevated/ At-Grade)	Trench Option	Hybrid Alternative	Hawthorne Option
Secured Sources				
Local Sources	Funding Estimate (YOE \$M)			
Measure R	\$272.0	\$272.0	\$272.0	\$272.0
Measure M*	\$828.5	\$828.4	\$828.4	\$878.3
3% Local Match Requirement**	\$59.0	\$85.3	\$66.9	\$88.9
State Sources				
TIRCP Grant	\$231.3	\$231.3	\$231.3	\$231.3
SB1 - Local Partnership Program	\$9.0	\$9.0	\$9.0	\$9.0
Not Yet Secured				
Other Local Funding	\$417.2	\$668.0	\$675.6	\$633.5
Other State Funding	\$150.0	\$150.0	\$150.0	\$150.0
Other Federal Funding	N/A	\$600.0	N/A	\$700.0
Total	\$1,967	\$2,844	\$2,233.5	\$2,963

*The Measure M year of expenditure (YOE) inflation estimate assumes a 3% annual escalation to the year of funding availability. The actual funding amount for Measure M will depend on future sales tax receipts, the Board-approved inflation index used to escalate the sales tax, and when Measure M is expended. The estimated escalation amount is higher for the Hawthorne Option as the construction start date is further out.

**The current cost estimate is based on a 15% design. Final estimate to be prepared at 30% design based on LPA.

Project Implementation, Potential Sequencing & Risk Reduction

To improve the project development process, reduce potential risks, and inform the cost estimating process, the Project team presented to an interdisciplinary team of staff on the Early Intervention Team (EIT) in April 2023. Following the Board selection the recommended LPA, the Project Team will advance the design based on the LPA including additional geotechnical investigations and real estate surveys to help Metro respond to comments in the Final EIR and respond to community concerns about property ownership. Metro will prepare a value engineering analysis and internal reviews on cost-saving measures in coordination with the EIT. The EIT will also support cost and schedule refinement, proposed delivery methods, and funding and financing strategies.

At this early stage in design, Metro is exploring a sequenced project implementation approach to

advance the Project and reduce risk, which can help manage costs, while additional funding is secured given the funding gap. In addition, as part of the next phase of design following LPA selection, A sequenced construction approach would involve procurement for early earthwork including relocating utilities and freight tracks as the first sequence, followed by a light rail contract to construct stations, tracks, and related infrastructure and equipment. This approach would allow Metro to move the Project forward to work towards the Measure M schedule and reduce construction risks and associated costs for the light rail contractor, while Metro pursues additional funding from local and state sources to complete the Project. During the first sequence of utility and freight relocation, Metro would explore the potential to deliver near-term benefits to the community including the quiet-zone-ready corridor freight improvements, and the neighborhood paths, as feasible.

Following the completion of the Final EIR and public release, Metro will return to the Board with a final recommendation for the Project to certify the environmental document and discuss the next steps for delivery based on updated cost estimates, technical analysis, and design work.

DETERMINATION OF SAFETY IMPACT

The selection of an LPA will not impact the safety of Metro's customers or employees.

FINANCIAL IMPACT

The Fiscal Year 2023-24 budget includes approximately \$7.7 million in Cost Center 4350 (Mobility Corridors), Project 460304 for professional services and support. Since this is a multi-year contract, the cost center Manager and Chief Planning Officer will be responsible for budgeting in future years.

Impact to Budget

Funding for this action comes from Measure R 35% Transit Capital.

EQUITY PLATFORM

The Project will connect the South Bay with the rest of the Metro Rail network, increasing access to employment, education, housing, and regional centers, serving many Equity Focus Communities (EFC) along the C and K Lines, including high-need communities such as Hawthorne, Gardena, West Carson, and Inglewood where close to 50% of the population is low-income. The 2022 Metro Customer Satisfaction Survey shows that 73% of existing C Line riders are coming from very low-income households and 74% do not have access to a vehicle for trips. Four out of five C Line riders identify as black, indigenous, and/or people of color.

Based on Metro's 2022 Equity Focus Community data, only a small portion of Lawndale is considered an EFC. Around the two proposed station areas, there are census tracts in which 20% to 39.9% of households are low-income (Redondo Beach Transit Center) and 10% to 19% of households are low-income households (Torrance Transit Center). Given that most Metro rail riders are low-income, the demographic analysis showed a significant need for transit options in the Project area, and communities along the C and K lines that would be well served by the Project.

Metro circulated materials and notices in English and Spanish and held pop-up events at community

events to increase awareness of the Project and engage groups who do not typically participate in community meetings. Metro met with over 100 bus riders at transit stops and performed door-to-door outreach to over 500 businesses in the Project area. Metro also held project briefings with local community colleges to reach students, another group that relies heavily on transit. Metro will invest more time and resources into Community Based Organization partnerships to help disseminate project information, advise on outreach methods, and engage a diverse set of project stakeholders as Metro advances the Project, pending the selection of an LPA.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The Project supports the following strategic plan goals identified in Vision 2028: Goal 1: Provide high-quality mobility options that enable people to spend less time traveling, Goal 3: Enhance communities and lives through mobility and access to opportunity, and Goal 5: Provide responsive, accountable, and trustworthy governance within the Metro organization.

ALTERNATIVES CONSIDERED

1. The Board may approve, in response to the higher costs of the other alignments, the Metro ROW Elevated/At-Grade Alignment in the Draft EIR as the Proposed Project/LPA, and adopt a Statement of Overriding Considerations in the Final EIR to acknowledge that significant noise impacts may remain. This alignment does not include the grade separations at 170th and 182nd Street to avoid a significant and unavoidable long-term noise impact and address CPUC's recommendation to grade separate and does not alleviate some of the community concerns that could be addressed with the Hybrid Alternative.
2. The Board may approve the Trench Option in the Draft EIR as the Proposed Project/LPA. This is not recommended due to higher cost, higher risk of schedule and budget impacts during construction due to extensive excavation, and a longer construction period compared to the other alignments.
3. The Board may approve the Hawthorne Option in the Draft EIR as the Proposed Project/LPA. This is not recommended due to the high number of real estate acquisitions (13 parcels, complex utility relocations, significant disruptions to traffic, parking, and businesses during construction, and longer project approval process due to the Caltrans encroachment permit approval and NEPA process.
4. The Board may approve the High Frequency Bus Alternative as the Proposed Project/LPA. This is not recommended as it does not provide sufficient capacity when compared with rail to meet projected future travel demand for the South Bay and the greater region.
5. The Board may approve the No Project Alternative. This is not recommended as it does not meet Project needs and objectives and would result in the potential loss of the \$231 million TIRCP grant.
6. The Board may make its determination, not select a Proposed Project/LPA and not proceed with the Final EIR but instead request for further study or place the project on hold. This is not recommended as it would delay the Project, moving it farther from its Measure M schedule, resulting in the potential loss of the \$231 million TIRCP grant as Metro is not advancing the Project in good faith per the grant award, and fails to address Vision 2028 Goal 1 to "provide

high-quality mobility options” and meet the Project need and community support for a rail connection to the South Bay.

NEXT STEPS

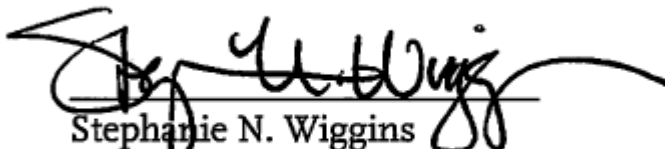
Upon Board selection of the recommended Proposed Project/LPA, staff will initiate preparation of the Final EIR, which includes updating the project description to reflect the selected LPA, advancing design and technical analysis including additional geotechnical and subsurface investigations, real estate surveys, etc. to respond to public comments on the Draft EIR and to prepare a mitigation, monitoring, and reporting plan (MMRP). During this time, Metro will complete value engineering, update cost estimates, prepare a more detailed funding plan with potential delivery strategies and phasing options, and continue to conduct community outreach, including but not limited to, gathering input on urban design and first/last mile connections to station areas and other community features. After completion of the Final EIR, typically 18-24 months following the selection of the Proposed Project/LPA, the Final EIR will be released to the public for review, staff will return with a final recommendation for the Metro Board to consider.

ATTACHMENTS

Attachment A - Comparison of Alignments & Alternatives Evaluated in Draft EIR

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Stephanie N. Wiggins
Chief Executive Officer

**ATTACHMENT A: Metro C (Green) Line Extension to Torrance
Comparison of Alignments & Alternatives Evaluated in Draft EIR**

May 2024

Comparison	ROW (Elevated / At-Grade)	Trench Option (ROW)	Hybrid Alternative (ROW)	Hawthorne Option
Ridership	●	●	●	●
Annual Project Trips	~3.68M	~3.68M	~3.68M	~4.96M
Annual New Riders	~1.49M	~1.49M	~1.49M	~1.74M
Cost/New Riders	\$1,318	\$1,905	\$1,497	\$1,695
Cost/Project Trips	\$534	\$772	\$607	\$595
Auto Reduction & Travel Time Savings	●	●	●	●
Annual VMT Reduction	~19.51M	~19.51M	~19.51M	~19.39M
Cost/VMT Reduction	\$101	\$146	\$115	\$153
Annual Travel Time Savings/Trips	6,996	6,996	6,996	6,265
Cost & Funding	●	○	●	○
Construction Cost	\$1.96B	\$2.84B	\$2.23B	\$2.96B
Funding Needs	Local/State*	Local/State & Federal	Local/State*	Local/State & Federal
Approvals & Key Agreements	●	●	●	●
California Environmental Clearance (CEQA)	Required	Required	Required	Required
Federal Environmental Clearance (NEPA)	Not assumed as this stage*	Needed for federal funding eligibility	Not assumed as this stage*	Needed for federal funding eligibility
Caltrans Encroachment Permit Approval	N/A	N/A	N/A	Required
BNSF Agreement (Shared Rail Corridor)	Required	Required	Required	Required
Constructability	●	○	●	○
Construction Staging	Metro ROW	Metro ROW	Metro ROW	I-405 & Hawthorne Bl
Utility Relocation Complexity	Underground petroleum lines	Underground petroleum lines	Underground petroleum lines	Underground storm main & overhead high voltage transmission lines
Excavation	Minor	Significant	Moderate	Moderate
Construction Disruption to Traffic & Parking	Minor	Minor	Minor	Significant
Construction Duration	2027-2033	2027-2036	2027-2034	2029-2035

Harvey balls compare level of performance relative to the alignments & alternatives studied from high ●, medium ●, and low ○. Data from 2023 Draft EIR and technical studies. South of 190th Street, all alignments and alternatives are the same.
*Metro may pursue federal funding and conduct federal environmental clearance based on Board direction.

**ATTACHMENT A: Metro C (Green) Line Extension to Torrance
Comparison of Alignments & Alternatives Evaluated in Draft EIR**

May 2024

Comparison	ROW (Elevated / At-Grade)	Trench Option (ROW)	Hybrid Alternative (ROW)	Hawthorne Option
Real Estate Needs	●	●	●	○
Residential Acquisitions	None	None	None	None
Non-Residential Acquisitions	Minor (~3)	Minor (~5)	Minor (~3)	Significant (~13)
Station Connections & TOD Potential	●	●	●	◐
Direct Rail Access to Bus Centers	Yes	Yes	Yes	No
Rail Access to South Bay Galleria	Yes	Yes	Yes	Yes
TOD Opportunities in Station Areas	Medium	Medium	Medium	High
New neighborhood paths to stations	Yes	Yes	Yes	No
Safety Enhancements	◐	●	●	●
Light Rail (LRT) Grade Separations	Two at-grade LRT x-ings (170th & 182nd St)	Fully separated LRT	Fully separated LRT	Fully separated LRT
Safety Improvements to Eight (8) Freight X-ings	Yes	Yes	Yes	No
Emergency Responder Access & Circulation	Potential delays at 170th & 182nd St	No changes	No changes	No changes
Light Rail & Freight Noise Mitigation	◐	●	●	◐
Mitigates Long-term Light Rail Noise Impacts	Significant LRT noise impact at 170th St.	Yes	Yes	Yes
Quiet Zone Ready Corridor (eliminates existing freight horn)	Yes	Yes	Yes	No
Permanent Changes to Street & Parking	◐	●	●	◐
Changes to street	Two at-grade LRT x-ings (170th & 182nd St)	None	None	Changes to median, left turn lanes, signals
Permanent Parking Loss	None	None	None	~20 spaces (Lawndale)

Harvey balls compare level of performance relative to the alignments & alternatives studied from high ●, medium ◐, and low ○. Data from 2023 Draft EIR and technical studies. South of 190th Street, all alignments and alternatives are the same.

SUMMARY TABLE

Comparison	Metro ROW (Elevated/At-Grade)	Trench Option (ROW)	Hybrid Alternative (ROW)	Hawthorne Option
Ridership	●	●	●	●
Auto Reduction & Travel Time Savings	●	●	●	●
Cost & Funding	●	○	●	○
Approvals & Key Agreements	●	●	●	●
Real Estate Needs	●	●	●	○
Constructability	●	○	●	○
Station Connections & TOD Potential	●	●	●	●
Safety Enhancements	●	●	●	●
Light Rail & Freight Noise Mitigation	●	●	●	●
Permanent Changes to Street & Parking	●	●	●	●

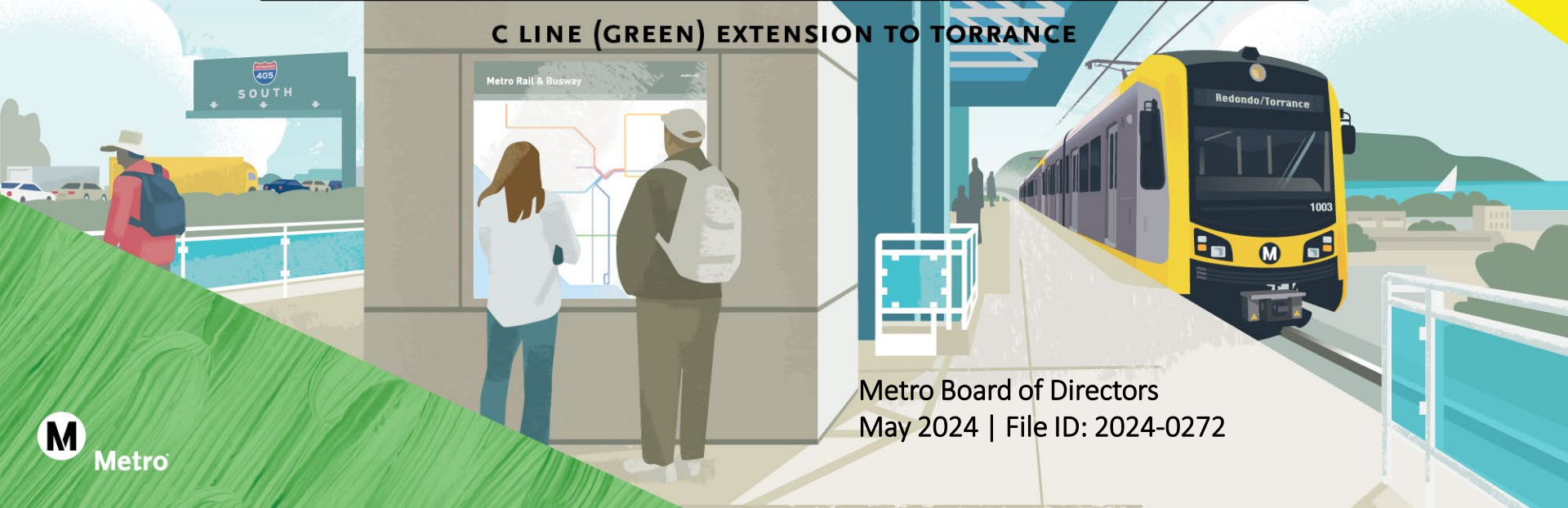
Harvey balls compare level of performance relative to the alignments & alternatives studied from high ●, medium ●, and low ○. Data from 2023 Draft EIR and technical studies. South of 190th Street, all alignments and alternatives are the same.



← To Crens

Next stop: more rail in the South Bay.

C LINE (GREEN) EXTENSION TO TORRANCE



Metro Board of Directors
May 2024 | File ID: 2024-0272



Recommendation for the Metro Board

CONSIDER:

- A. APPROVING the 170th/182nd Grade-Separated Light Rail Transit Alternative, also referred to as the Hybrid Alternative, as the Proposed Project for the Environmental Impact Report (EIR) and Locally Preferred Alternative (LPA) for the Metro C (Green) Line Extension to Torrance Project (Project); and
- B. AUTHORIZING the preparation of the Final EIR through the California Environmental Quality Act (CEQA) based on the LPA.



Comparison of Alignments & Alternatives Studied

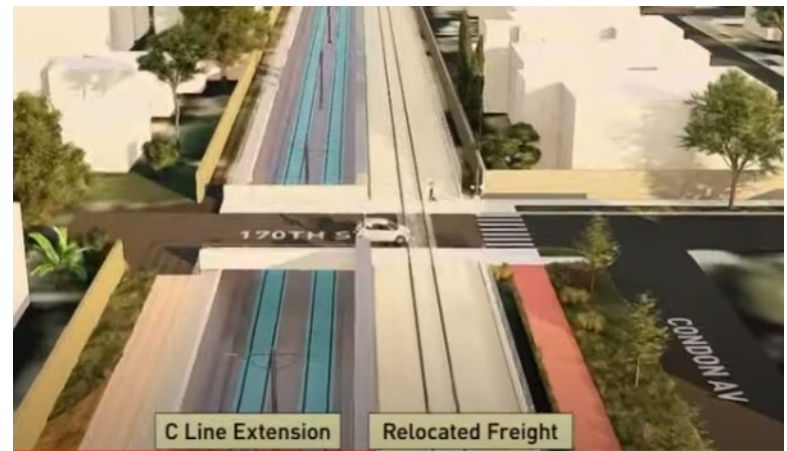
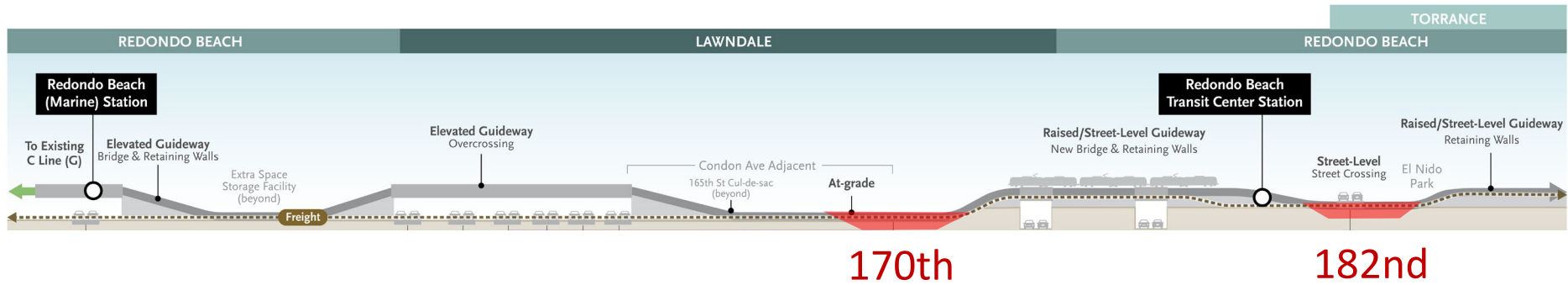


Comparison	Metro ROW (Elevated/At-Grade)	Trench Option (ROW)	Hybrid Alternative (ROW)	Hawthorne Option
Ridership	●	●	●	●
Auto Reduction & Travel Time Savings	●	●	●	●
Cost & Funding	●	○	●	○
Approvals & Key Agreements	●	●	●	●
Real Estate Needs	●	●	●	○
Constructability	●	○	●	○
Station Connections & TOD Potential	●	●	●	●
Safety Enhancements	●	●	●	●
Light Rail & Freight Noise Mitigation	●	●	●	●
Permanent Changes to Street & Parking	●	●	●	●

Harvey balls compare level of performance relative to the alignments & alternatives studied from high ●, medium ●, and low ○. Data from 2023 Draft EIR and technical studies. South of 190th Street, all alignments and alternatives are the same.



Hybrid Alternative – Staff Recommendation



Proposed under-crossing at 170th Street



Hybrid Alternative – Staff Recommendation

Meets project need and objectives

Provides local benefits to adjacent communities

- Designed to be compatible w/ residential
- Three new neighborhood walking paths
- Safer and quieter freight
- Access to new rail/bus centers and SB Galleria

Responds to Community Concerns about ROW

- Fully grade separated with two under-crossings: 170th & 182nd Street
- Mitigates all noise impacts
- Avoids delay to emergency responders
- Avoids shift in freight closer to senior homes

Minimizes disruption to properties, traffic, parking

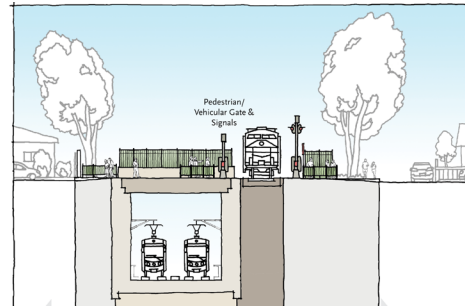
- Minor real estate needs (~3 parcels) north of 190th St
- Construction staged on Metro property
- No changes to traffic & parking



Freight Safety & Noise Improvements



New Neighborhood Paths



Under-crossings at 170th & 182nd St



Redondo Beach Transit Center



Torrance Transit Center