- Downtown Culver City via Metro Expo Line
- Crenshaw District via Metro Expo Line
- Downtown Pasadena via Metro Gold Line
- Old Town Pasadena via Metro Gold Line
- South Pasadena via Metro Gold Line
- Chinatown via Metro Gold Line
- City of Compton via Metro Blue Line
- Highland Park via Metro Gold Line
- Boyle Heights via Metro Gold Line Eastside Extension
- Arts District via Metro Gold Line Eastside Extension
- East Los Angeles Civic Center via Metro Gold Line Eastside Extension
- East Los Angeles College via Metro Gold Line Eastside Extension
- Los Angeles Coliseum via Metro Expo Line
- Los Angeles County Museum of Natural History via Metro Expo Line
- Watts via Metro Blue Line

1.9.2 Local Redevelopment Plans and Transit Improvements

Many of the communities in the PSA are focusing on redevelopment projects to meet increasing residential and commercial demands. Several large commercial centers or mixed-use developments have been identified within the PSA. These centers are typically ideal locations for public transit services due to the large number of patrons and opportunity to alleviate inbound and outbound traffic congestion.

Following are some of the current CRA projects in the PSA:

- 2nd St. Connection – This project, financed mostly by Metro and Surface Transportation Program-Local funds, will complete Upper 2nd St. between Grand Ave. and Olive St. Construction on the connection is underway.
- Bunker Hill Design for Development – This project would amend the 1971 Design for Development (DFD) and increase the maximum floor area ratio in the Bunker Hill Redevelopment Area from 5.0 to 6.0. This would in turn allow 20 percent more square footage than the current DFD. The project is currently in the Environmental Impact Report (EIR) phase.

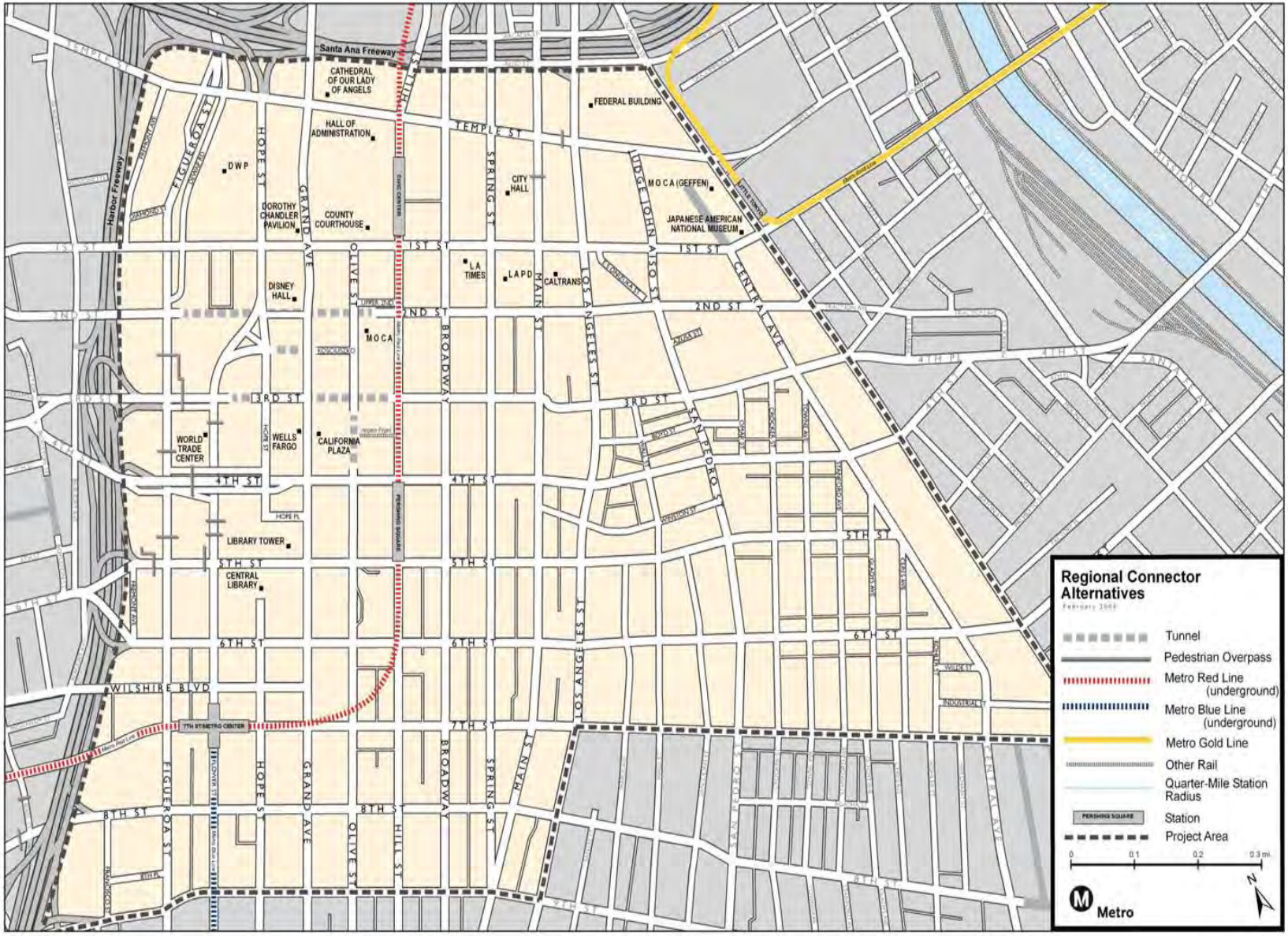


Figure 1-34 Activity Centers within PSA

- Grand Avenue Project – This project consists of a full-scale redesign of Grand Ave. as well as the addition of a 16-acre park in the Civic Center and 3.9 million square feet of retail, hotel, and office space.

- Parcel Y-1 Development – Under this plan, the existing Angels' Knoll Park will be developed into a third California Plaza office tower, potentially with retail and residential space. The project is currently in the DFD and EIR phase.

- Los Angeles Sports and Entertainment District/L.A. Live! – Large portions of this project are open as of this writing, but some are still under development. This project creates a major sports and entertainment destination just south of the Financial District, surrounding the existing Los Angeles Convention Center and Staples Center. Additional auditoriums and theaters, as well as retail and office space, will be added by the end of 2009. Condominium and rental apartment buildings are presently under construction. This redevelopment project is located one block south of the PSA, within one-quarter mile of the Pico Ave. on the Metro Blue and Expo Lines. The Regional Connector LRT alternatives directly connect the Metro Gold Line and Eastside Expansion lines to the complex.

- Park Fifth – An EIR is currently being prepared for a new high-rise residential building on 5th St. between Hill and Olive Streets, proposed as the tallest U.S. residential structure west of Chicago. The project will contain market-rate condominium units, a five-star hotel, and ground floor commercial space.

- 8th & Grand – This is a condominium project with ground floor restaurants and retail located on 8th St. between Grand Ave. and Olive St. The project was approved by the CRA Board and the City Council in 2006.

- Mangrove Site – CRA issued a request for proposals which closed in late 2007 for the parcel adjoining the future Metro Gold Line Little Tokyo/Arts District Station at 1st and Alameda Streets. CRA hopes to pursue a mixed-use project on the site with market rate and affordable residential units, commercial space, and public parking. The site is located east across Alameda St. from the PSA.

- Block 8 Mixed Use – This parcel in Little Tokyo is located between 2nd, 3rd, San Pedro, and Los Angeles Streets. The proposed development will include affordable rental units, market-rate condominium and rental units, commercial space, and open space. The site plan includes a mid-block walkway between San Pedro and Los Angeles Streets and is currently under construction.

- Metropolis Project – Located on the southwest corner of 8th and Francisco Streets, this recently-approved development will add 2.8 million square feet of new condominium, office, hotel, and retail space.

- Little Tokyo Central Avenue Art Park – This project involves redeveloping the closed section of Central Ave. between Temple and 1st Streets into a landscaped community park and underground parking facility linking the existing MOCA, The Japanese American National Museum, and Go For Broke monument.

- The Medallion – This project seeks to replace a surface parking lot with market-rate apartments and commercial space on a site located between Main, Los Angeles, 3rd, and 4th Streets. Construction on Phase 1 of the project has begun, and Phase 2 relies on the demolition of the existing Downtown Women's Center (see next project).

- Downtown Women's Center Relocation/Expansion – This project will remove the existing Downtown Women's Center on San Pedro St. between 4th and 5th Streets in order to make way for The Medallion. The City will renovate its Renaissance Building as the new Women's Center, and will provide an additional 75 permanent housing units and eight day rest beds for homeless women. CRA is currently reviewing development plans for the relocation/expansion project.

- Residential Hotels Rehabilitation Program – Under this plan, CRA will acquire approximately 30 single-room occupancy hotels, lease them to non-profit housing operators, and preserve the units as low-income housing. CRA cites public ownership as a means of cleaning up crime-ridden slum hotel areas within the PSA.

Additionally, CRA is preparing development plans for the Central Industrial District, located in the southeast portion of the PSA. The City does not have any Specific Plan areas within the PSA; however there are three in the downtown area that border the PSA:

- Alameda District (North of the PSA) covers Union Station and the surrounding parcels.

- Los Angeles Sports and Entertainment District (South of the PSA) includes the L.A. Live development, Staples Center, the Convention Center, and surrounding parcels slated for high-density development.

- Central City West (West of the PSA) covers the area immediately west of the 110 freeway.

1.9.3 Air Quality and Environmental Sustainability

The City is one of the most congested metropolitan areas in the nation and has been designated as a federal non-attainment area for air quality. The growing concern over global climate change and poor air quality is a predominant concern for Southern California. The use of fossil fuels for transportation generates large amounts of carbon dioxide (a greenhouse gas) emissions, which continue to disrupt progress toward improved air quality. Vehicle-related emissions account for over one-third of all air pollutants in the County.[5]

[5] SCAG 2006 State of the Region Report Executive Summary

During the 1990s, the County saw a significant increase in transit use. In 2002, SCAG reported that the City ranked 7th in the nation in public transit usage.[6] These changes are due in large part to investments in the regional public transportation system.

Investments in public transportation can contribute to alleviating the air quality challenges faced by the region and mitigating the negative effects suffered by Southern California residents. The Regional Connector will contribute to improved mobility by increasing the speed and convenience of the rail system, thereby providing a more viable alternative to the automobile. As a result, projected degradation of air quality will be reduced (at a minimum) or reversed (at a maximum) through reduced automobile-related greenhouse gas emissions in the region.

1.9.4 Travel Demand and Patterns

Historic growth patterns have resulted in a multi-centered region with multiple transportation corridors converging in the PSA. The transportation network includes 9,000 lane-miles of freeway, more than 42,000 lane-miles of arterials, and several large public transit service providers.[7] Yet growth of the transportation system has not kept pace with population growth and increases in transportation demand. As the population in the region doubled from 1960 to 2000, highway miles increased by less than 30 percent.[8] The congestion caused by insufficient transportation lanes affects both personal travel and goods movement. The majority of the congestion is from travel on the highways and local arterial network regardless of transportation mode. If the current trend persists, travel delays are expected to rise to 5.4 million person hours by 2030, more than double currently experienced delays, which will deeply affect highway productivity.[9] Expanding the public transportation system will provide more choices for commuters and potentially reduce travel demand and patterns on major highway and arterial systems.

The PSA is at the central core of activity for the County. The PSA is ranked very high as a destination zone for people coming from outside of the PSA. For instance, over 50,000 daily trips (approximately 25 percent of external trip destinations) are made for work from the greater Eastside, to Central Los Angeles. The CBD is also one of the top attractors of trips from the Westside. In 2006, of the more than 53,000 daily person trips from the PSA to other parts of Central Los Angeles, 11,000 were on public transit.

Among passengers riding on the Metro Gold Line from Pasadena to Union Station, nearly three-quarters transfer to the Metro Red Line for continued service into other parts of the City. Figures 1-36 and 1-37 illustrate travel patterns to and from the PSA.

[6] SCAG 2002 State of the Region Score Card
[7] SCAG 2004 RTP Chapter 2
[8] SCAG 2004 RTP Executive Summary
[9] SCAG 2004 Draft RTP PEIR

1.9.5 Summary of Public Transit Markets

The PSA is located in the crossroads of the region's transportation system because of historic development and population growth patterns. It contains the highest concentration of jobs in the County. Improving access to and through the PSA is a vital part of a larger strategy for meeting the economic, social, and environmental goals of the region.

Areas with large and growing populations represent a large public transit market because of high travel demands on already-congested public transit, roads, and freeways. As described in Section 1.8.4, the total population in the PSA is projected to increase by almost 25 percent by 2030, increasing the population density. High population densities can increase potential ridership on public transit.

Increasing economic development and employment opportunities in the PSA also increases the size of the public transit market. Employment is expected to increase by about 15 percent by 2030. This will increase demands for public transit from commuters wishing to avoid travel in private vehicles during peak traffic hours on roads and freeways.

Improving public transit connectivity in the PSA offers opportunities to increase ridership through access to regional transit markets. Balanced local land use and transportation policies can reduce auto travel and support more pedestrian-friendly, mixed-use and transit-oriented developments throughout the region.

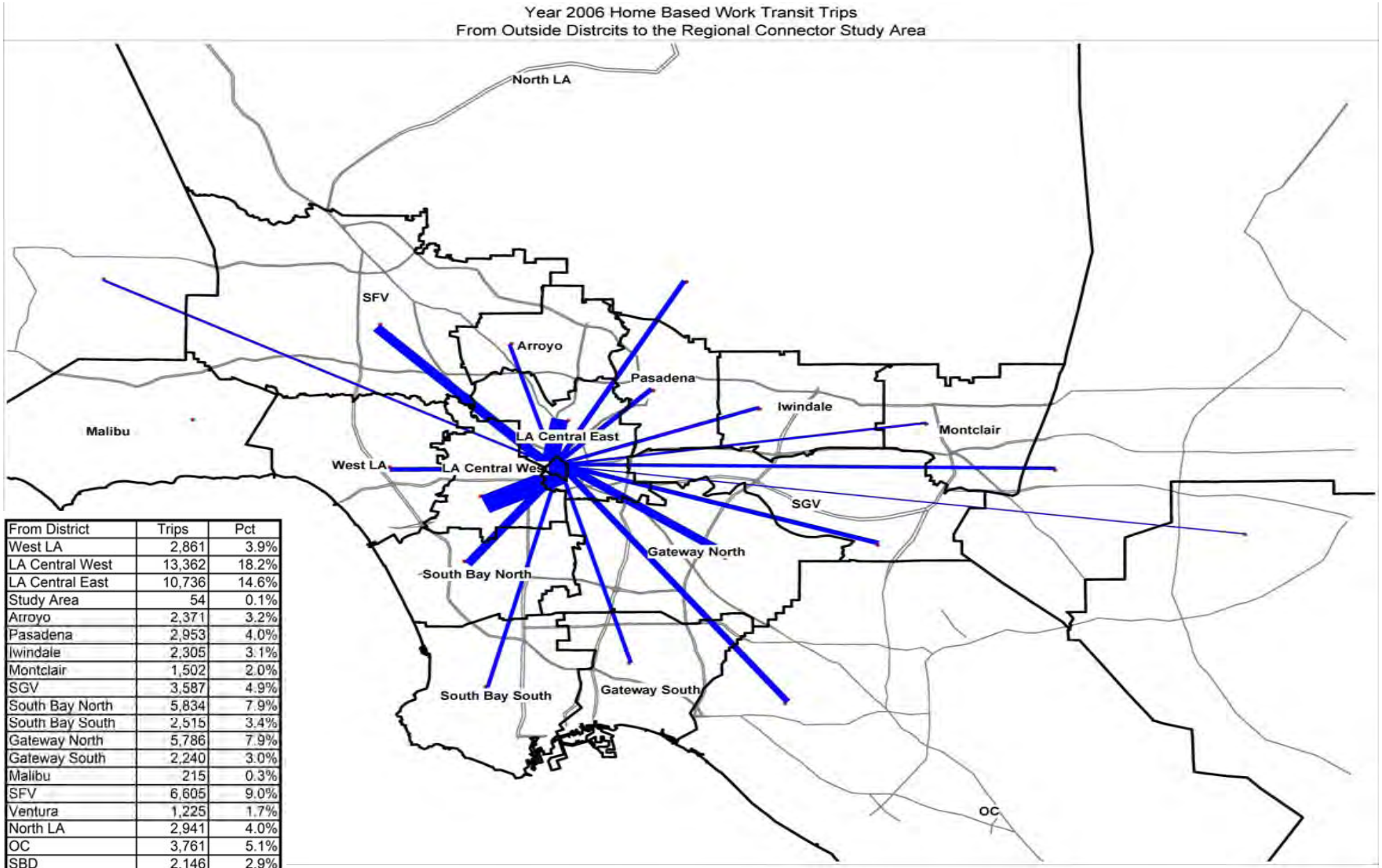
Public transit provides an alternative means of personal mobility, supports increases in demands to alternatives to private transportation, and contributes to improving the quality of life in metropolitan communities.

Transit facilities, services and centers are best when they are customer-friendly, community-oriented and well-designed. A network of transit-based centers and corridors, supported by in-fill development, maximizes the use of existing infrastructure, supports transit ridership, reduces automobile air pollution and preserves natural areas. These improvements will help improve the region's economic vitality, quality of life, and environment.

1.10 Goals and Objectives

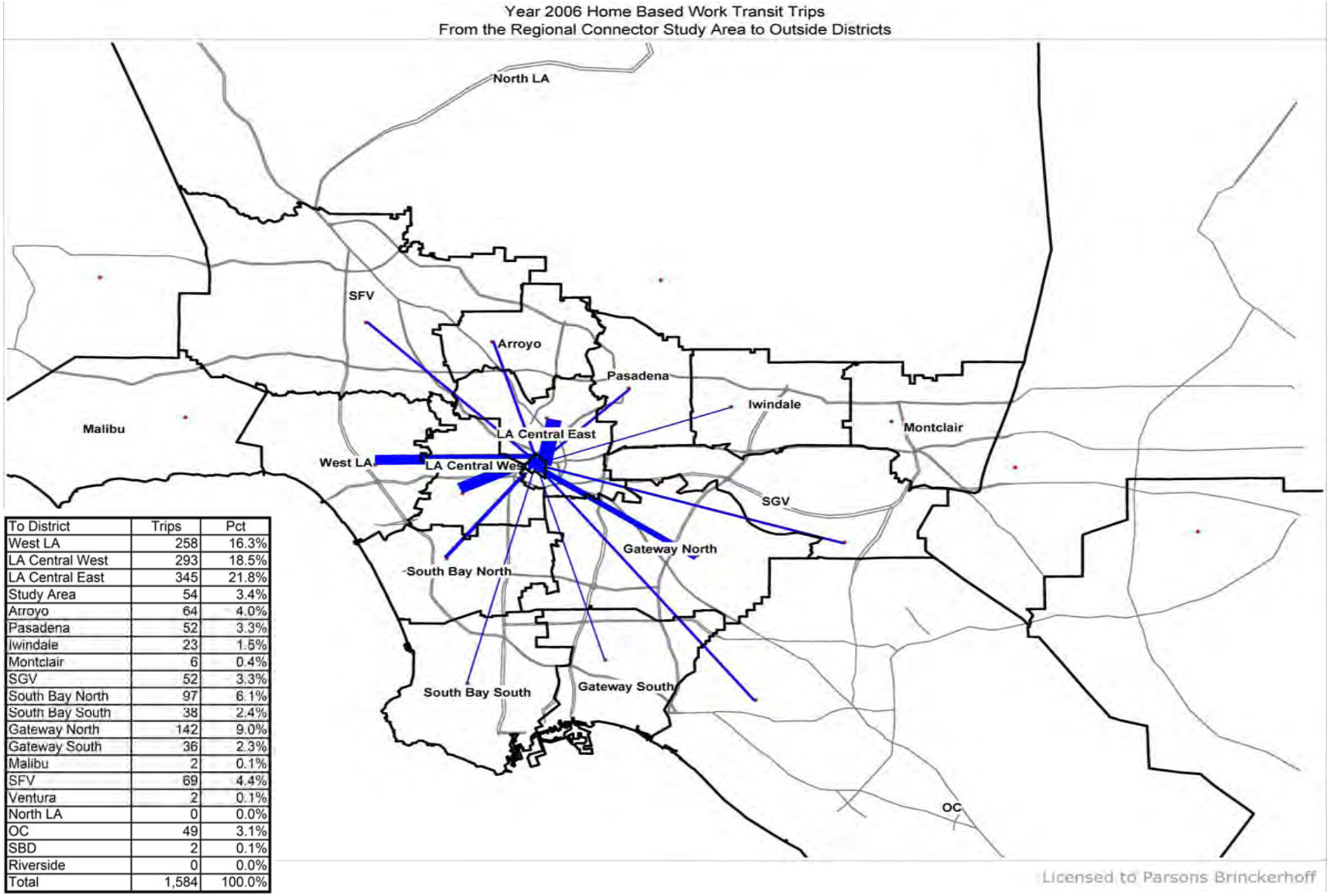
The purpose of the Regional Connector is to improve the connections within the existing Metro Rail system and eliminate the need for existing transfers. The project will also expand Metro Rail coverage within downtown. A set of goals was identified at the outset of the project to identify the potential of each alternative to meet these objectives.

These goals and objectives were generated during the early scoping process to reflect input from public agencies, community groups, and individual stakeholders. They address major considerations regarding:



From District	Trips	Pct
West LA	2,861	3.9%
LA Central West	13,362	18.2%
LA Central East	10,736	14.6%
Study Area	54	0.1%
Arroyo	2,371	3.2%
Pasadena	2,953	4.0%
Iwindale	2,305	3.1%
Montclair	1,502	2.0%
SGV	3,587	4.9%
South Bay North	5,834	7.9%
South Bay South	2,515	3.4%
Gateway North	5,786	7.9%
Gateway South	2,240	3.0%
Malibu	215	0.3%
SFV	6,605	9.0%
Ventura	1,225	1.7%
North LA	2,941	4.0%
OC	3,761	5.1%
SBD	2,146	2.9%
Riverside	517	0.7%
Total	73,516	100.0%

Figure 1-35 Travel Patterns to PSA in 2006



To District	Trips	Pct
West LA	258	16.3%
LA Central West	293	18.5%
LA Central East	345	21.8%
Study Area	54	3.4%
Arroyo	64	4.0%
Pasadena	52	3.3%
Iwindale	23	1.5%
Montclair	6	0.4%
SGV	52	3.3%
South Bay North	97	6.1%
South Bay South	38	2.4%
Gateway North	142	9.0%
Gateway South	36	2.3%
Malibu	2	0.1%
SFV	69	4.4%
Ventura	2	0.1%
North LA	0	0.0%
OC	49	3.1%
SBD	2	0.1%
Riverside	0	0.0%
Total	1,584	100.0%

Figure 1-36 Travel Patterns from PSA in 2006

- maximization of transportation benefits,
- integration of the project with local land use enhancements, and
- building a system that is compatible with the dense downtown environment.

The goals are:

Goal 1 - Improve Mobility and Accessibility both Locally and Regionally

Develop an efficient and sustainable level of mobility within the County to accommodate planned growth and a livable environment.

Goal 2 - Provide a Cost Effective Transportation System

Develop a project that provides sufficient regional benefits to justify the investment.

Goal 3 - Provide a Safe and Secure Alternative Transportation System

Develop a project that is safe for riders, pedestrians and drivers while meeting the region's need for security.

Goal 4 - Achieve a Financially Feasible Project

Develop a project that maximizes opportunity for funding and financing that is financially sustainable.

Goal 5 – Support Public Involvement and Community Preservation

Incorporate the public in the planning process and balance the benefits and impacts while preserving communities in the area, such as Little Tokyo, the Arts District, Bunker Hill, Civic Center, and the Historic Core.

Goal 6 - Support Efforts to Improve Environmental Quality

Develop a project that minimizes environmental impacts.

Goal 7 – Support Community Planning Efforts

Support the progression of the regional center as an integrated destination and a dynamic and livable area accommodating projected growth in a sustainable manner.

1.11 Role of This Alternatives Analysis

This AA is intended to provide a more in-depth review of the most promising alternatives identified during prior screening processes. The report describes how eight alternatives were identified from an initial 32 conceptual alternatives for screening. The report then summarizes the evaluation leading to the selection of the two most-promising alternatives for final screening and refinement.

To determine which of the two most-promising alternatives would best achieve the project goals, the AA compares each alternative's transportation benefits and impacts, environmental effects, financial feasibility, and level of community support. The report concludes with a comparative summary of each screened alternative's performance under these criteria and recommends a shorter list of preferred alternatives for further study in a subsequent DEIS/DEIR phase.

Section 2 Alternatives Considered

2.1 Evaluation Method

The process used to develop alternatives, screen them, and select a Locally Preferred Alternative (LPA) is shown in Figure 2-1 and described below.

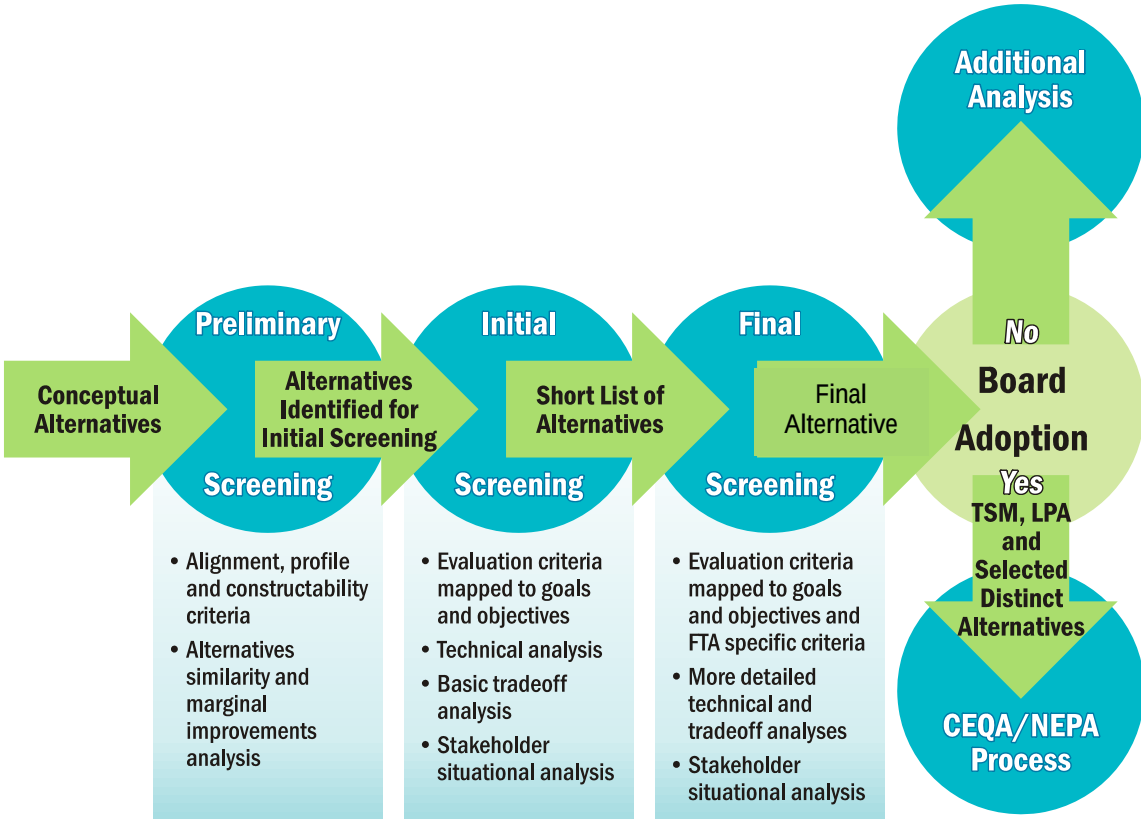


Figure 2-1 Project Process

- Conceptual Alternatives – Alternatives were identified based on previous studies and an evaluation of changed conditions. Alternatives previously studied but no longer viable due to changes in land use, availability of property, and/or efficiency, flexibility, and cost due to construction of new Metro Rail lines were eliminated. There were 36 Conceptual Alternatives identified, the extents of which are shown in Figure 2-2.

Figure 2-2 Regional Connector Potential Corridors

- Preliminary Screening – Based on input received from the Early Scoping process and initial engineering analysis, the initial set of conceptual alternatives was screened based on clear issues related to constructability, right-of-way constraints, impacts of configurations and operational concerns. This preliminary screening resulted in eight Alternatives Identified for Initial Screening. The preliminary screening is documented in the Draft Alternatives Identification Report (January 2008).

- Initial Screening – The eight Alternatives Identified for Initial Screening were evaluated according to the goals, objectives, and evaluation criteria established for the Regional Connector using a multi-criteria comparison method. The Initial Screening resulted in a reduced set of promising alternatives for which details for engineering, environmental and urban design opportunities and issues will be developed. The Initial Screening is documented in the Draft Initial Screening of Alternatives Report (April 2008).

These steps are discussed in more detail below.

2.1.1 Previous Studies

The Regional Connector was originally conceived in 1993 as part of the Metro Blue Line extension to Pasadena. The project was not pursued due to lack of funding availability as well as a plan to use the Metro Red Line as an interim link until the system matured. Since 1993, a few studies were conducted to determine new alternatives considering the changing land uses and expanding Metro Rail system. An overview of these past studies is presented in Section 1.3, Past Studies.

2.1.2 Metro/FTA Scoping

According to the Federal Transit Administration (FTA) New Starts criteria, a scoping period during the AA must be conducted in order to inform the public, organizations, and local, regional, state, and federal agencies on all issues concerning the project, including benefits, costs, and impacts. Early Scoping for the Regional Connector was initiated with the publication of the Early Scoping Notice in the Federal Register on October 31, 2007 and continued for 30 days.

A Public Notice was developed to inform the public of Early Scoping on the project, associated meetings, and other opportunities to provide input concerning the scope of the AA. A copy of the Public Notice, as well as other detailed Scoping Information, can be found in the Project Early Scoping Report, March 2008.

2.1.3 Screening Criteria

The Alternatives Identified for Screening were selected based on their feasibility given the street configuration and dense development in downtown. Several light rail alignments were adapted from previous studies and reports, and additional ones were added and synthesized from combinations of others. Particular thought was given to routes providing better coverage of major activity centers within the PSA between 7th St./Metro Center Station and the Metro Gold Line Eastside Extension.

Some of the formerly proposed routes were not considered because they made use of previously vacant parcels where new dense developments have since been constructed. Some of these parcels included the new location of City Police Department (LAPD) Headquarters, the Grand Avenue Project, and Caltrans Headquarters. Alignments which required a significant number of acquisitions and/or relocation were also removed from consideration. Some smaller, narrow street alignments that were previously surrounded by industrial uses now have adjacent dense residential developments nearby; these noise-sensitive land uses would be incompatible with light rail in a narrow right-of-way.

Some previous studies had identified alternatives that included a significant amount of aerial configuration, as seen in Figure 2-3, with the purpose of reducing impacts to vehicular traffic and allowing for easier grade changes. However, comments received during the Early Scoping period showed little public support for aerial configurations due to aesthetics and sensitive land uses. Also, it was determined that traffic improvements would not be fully achieved as lane reductions would still be necessary for aerial beam supports.

Figure 2-3 Aerial Bridge

Other alignments which were screened and removed from consideration included those which considered a new extension from the recently constructed Metro Gold Line LRT bridge over US-101, as seen in Figures 2-4 and 2-5. Those proposed alignments would require a major alteration and, in some instances, complete demolition and reconstruction. These options would not be financially feasible for the project.

Figure 2-4 LRT Bridge over US-101

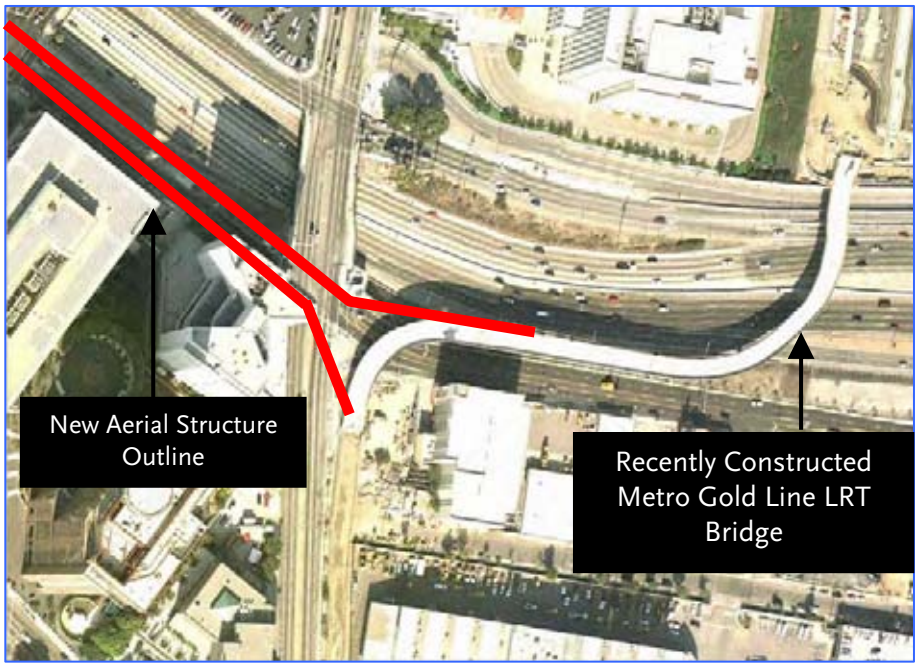


Figure 2-5 LRT Bridge Extension

Finally, a number of previous studies included the possible use of the 3rd St. tunnel for one segment. After further evaluation to the current conditions of the tunnel, it was determined that the tunnel could not be used in either a single or dual-track configuration. The tunnel, as seen in Figure 2-6, is located directly below residential housing. Modifications could result in increased noise and vibration for residents, and constructability difficulties due to the narrow width.

Figure 2-6 3rd St. Tunnel

2.1.4 Screening Criteria Development

Beginning with the goals discussed in Section 1, specific objectives were developed for the Regional Connector. Initial and Final Screening Criteria for each objective were developed during Early Scoping with input from the community and public agencies. The Initial and Final Screening Criteria were developed in the form of specific and detailed performance measures. Table 2-1 summarizes the Regional Connector goals, objectives, Initial Screening Criteria, and Final Screening Criteria.

2.2 Alternatives Identified for Initial Screening

Following completion of Preliminary Screening, eight Alternatives for Initial Screening were identified. A corridor description is provided for each alternative, including alignment configurations and station locations, in Table 2-2. Maps and engineering plans for each alternative are shown in Figure 2-7 to 2-17. A summary of known issues and opportunities is presented in Table 2-3.

2.3 Result of Initial Screening

Each of the alternatives was evaluated in detail with regard to the Initial Screening Criteria. Table 2-4 through Table 2-10 summarizes the results of Initial Screening for Goals 1 though 7, respectively, of the project.

2.4 Short List of Alternatives

Following Initial Screening, two of the most promising alternatives were selected for the Short List of Alternatives: the At-Grade Emphasis LRT Alternative and the Underground Emphasis LRT Alternative. Final Screening will include these alternatives, along with a No Build Alternative and Transportation System Management (TSM) Alternative, which are described below.

2.4.1 No Build Alternative

The No Build Alternative includes all existing transportation facilities as well as all committed transportation projects outlined in the Metro Long-Range Transportation Plan (2001) and SCAG Regional Transportation Plan (2004). This includes the Metro Gold Line Eastside Extension scheduled to open by the end of 2009, the first and second phases of the Metro Expo Line scheduled to open in 2010, and the second phase of the Metro Rapid Bus expansion plan scheduled to be completed in 2008.

These transportation options were discussed in detail in Section 1.5 Transportation Facilities and Services and Section 1.6 Performance of the Travel System. Figure 2-18 shows the existing public transportation system in the PSA that serves as the No Build Alternative. Appendix B contains a list of transit lines serving the PSA and Appendix C shows the lines that closely parallel the general route of the Regional Connector.

Table 2-1 Regional Connector Goals, Objectives, and Performance Measures

Goal	Objectives	Initial Screening Criteria (Performance Measures)	Final Screening Criteria (Performance Measures)
1 Support Community Planning Efforts *Support the progression of the regional center area as an integrated destination and a dynamic and livable area accommodating projected growth in a sustainable manner*	▸ Support land use policies and Community Plans ▸ Support and coordinate with development and redevelopment efforts ▸ Support the City's effort to improve urban design and the pedestrian environment by contributing to a healthy environment ▸ Support efforts to improve safety and security for downtown residents, employees and visitors ▸ Support transit dependent communities	▸ Population, *Population Density, Households, Household Density for year 2030 ¼ mile of alignment* ▸ Transit *Oriented Design supportive plans and policies in place (Score 1 -worst to 5 -best)* ▸ Number *of jobs, employment density for year 2030 within a ¼ mile of alignment* ▸ Number *of direct connections to key activity centers within ¼ mile of alignment (Score 1 -worst to 5 -best)* ▸ Number *of opportunities for redevelopment within ¼ mile of alignment (underdeveloped or underutilized properties along alternative alignment)*	▸ *Number of planned development projects in the area over the next 10 years, including residential/office space/commercial units within a 1/4 mile of stations* ▸ *Number of connections with sidewalks that support the City's Downtown Street Standards*
2 Support Public Involvement and Community Preservation *Incorporate the public in the planning process and balance the benefits and impacts while preserving communities in the area, such as Little Tokyo/Arts District, Bunker Hill, Civic*	▸ Balance the benefits and impacts to low income and minority communities ▸ Enable workers and visitors to gain access to the regional center to increase its economic vitality and benefit from its economic opportunity	▸ *Evaluation of potential disproportionate effects: Environmental justice effects will be evaluated per CEQA/NEPA requirements (Score 1 to 5)* ▸ *Initial areas identified for potential acquisitions for stations and alignment (does not include actually in construction) within ¼ mile of alignment* ▸ *Evaluation of potential disproportionate effects: Number of low* income *HH within¼ mile of proposed alignment* ▸ *Number of residents by ethnicity within ¼ mile of alignment (US Census)* ▸ *Urban fit potential for alignment and for stations, including physical scale, visual fit, and cultural preservation (Score 1 to 5)* ▸ *Percentage of service grade separated* ▸ *Community Acceptance (High, Medium, Low)*	▸ *Number of potential acquisitions* ▸ *Percentage of service grade separated* ▸ *Evaluation of potential disproportionate effects and risk to environmental justice populations related to construction activities (Score 1 to 5)* ▸ *Urban fit potential, including pedestrian accessibility and urban design enhancement opportunities (Score 1 to 5)*

Table 2-1 Regional Connector Goals, Objectives, and Performance Measures

Goal	Objectives	Initial Screening Criteria (Performance Measures)	Final Screening Criteria (Performance Measures)
Improve Mobility and Accessibility both Locally and Regionally 3 *Develop an efficient and sustainable level of mobility within LA County to accommodate planned growth and a livable environment*	▸ Improve the connectivity of the regional transit service and provide a more attractive travel alternative for residents, workers and visitors in the region ▸ Facilitate sustainable regional development ▸ Increase ridership of the Metro transit system and reduce single occupancy trips ▸ Maintain or enhance transit services to the transit dependent ▸ Improve travel time for transit users system-wide ▸ Improve person throughput ▸ Reduce growth of congestion in corridor	▸ *Increase in daily transit boardings (amount of transit users increased compared to No Build)* ▸ *New daily transit trips compared to No Build and Transportation System Management (TSM) alternatives* ▸ *Traffic impacts (Number of intersections with E or F Level of Service)* ▸ *Reduction in number of transfers system-wide by operational plan of alignment (daily reductions at US & 7th St./Metro)* ▸ *Total number of lanes reduced (cumulative for all streets)* ▸ *Number of potentially impacted intersections* ▸ *Peak period travel time through Regional Connector Alignment (including 5 min for each transfer)* ▸ *Number of left turn pockets affected* ▸ *Number of parking spaces potentially affected* ▸ *Number of driveways affected* ▸ *Daily hours of transportation user benefits (Compared to No Build)*	▸ *Hours of transportation user benefits* ▸ *Congestion relief (Reduction in highway travel demand in the corridor)* ▸ *Comparison of highway, bus, and fixed guideway peak period travel times between major travel pairs (Run times, head ways, average speed, station spacing)* ▸ *Peak period travel time (door to door)* ▸ *Travel time savings (Union Station to 7th/Flower)* ▸ *Reduction in Vehicle Miles Traveled (VMT) (VMT compared to No Build)* ▸ *Assessment of expandability (Score 1 to 5)*

Table 2-1 Regional Connector Goals, Objectives, and Performance Measures

Goal	Objectives	Initial Screening Criteria (Performance Measures)	Final Screening Criteria (Performance Measures)
4 Support Efforts to Improve Environmental Quality *Minimize adverse environmental impacts*	▸ Minimize adverse environmental impacts ▸ Implement mitigation measures to reduce environmental effects to acceptable levels ▸ Reduce emissions and improve air quality	▸ *Noise (Number of curves for LRT alignment)* ▸ *Potential visual impacts to notable architectural resources within ¼ mile of alignment (Score 1 to 5)* ▸ *Number of Potential Sensitive Receptors within ¼ mile of alignment (Score 1 to 5)* ▸ *Potential impacts to historically significant locations within ¼ mile alignment (Score 1 to 5)* ▸ *Geologic and geotechnical issues along alignment (Score 1 to 5)*	▸ *Expected level of impacts after mitigation to biological, social, and physical resources will be evaluated per CEQA/NEPA requirements (Score 1 to 5)* ▸ *Reductions in PM10, NOx, and SOx emissions* ▸ *Reduction in carbon footprint for average user*
5 Provide a Cost Effective Alternative Transportation System *Develop a system that serves as an alternative to travel economically*	▸ Increase ridership on the Metro system ▸ Minimize cost per passenger ▸ Maximize travel time savings	▸ *Rough order of magnitude annual O&M (2008$) costs per alignment (millions)* ▸ *User cost - Cost effectiveness compared to No Build ($/hour of transit user benefit)*	▸ *Annualized cost per hour of transit system user benefit compared to No Build and Transportation System Management (TSM) alternatives* ▸ *Annual O&M costs*
6 Achieve a Financially Feasible Project *Develop a project that maximizes opportunities for funding and financing and that is financially sustainable*	▸ Opportunities for private/public funding ▸ Opportunities for Federal and outside funding	▸ *ROM Capital costs — total and per mile per alignment (2008$) (millions)* ▸ *Evaluation of availability and eligibility of capital funds at federal/state/local levels to construct, operate and maintain (Score 1 to 5)*	▸ *Capital cost estimate disaggregated by right of way (ROW), guideway, stations, yards, and vehicles on a cost per mile basis*

Table 2-1 Regional Connector Goals, Objectives, and Performance Measures

Goal	Objectives	Initial Screening Criteria (Performance Measures)	Final Screening Criteria (Performance Measures)
7 Provide a Safe and Secure Alternative Transportation System *Develop a project that is safe for riders, pedestrians, and drivers while meeting the regions needs for security*	▸ Secure entire alignment, stations, track and other facilities ▸ Develop direct and indirect safety measures that exceed safety precautions typical of the Metro system ▸ Develop a system that balances the need for accessibility and mobility with security ▸ Develop a system that uses accessibility and mobility as measures for safety and security	▸ *Safety – determined to be able to provide measures typical of requirements per ADA, per typical CPUC requirements, fire life safety guidelines, and per Metro Design Guidelines for access to and from stations (amount grade separated) (Score 1 to 5)* ▸ *Number of emergency facilities located within ¼ mile of the alignment, i.e., fire stations, police stations, hospitals.* ▸ *Number of public events within ¼ mile of alignment*	▸ *Number of crossing with high pedestrian activities on a daily basis* ▸ *Number of events along the alignment* ▸ *Number of potential issues related to accessibility and line of sight for pedestrians and vehicle drivers (Score 1 to 5)*

Table 2-2 Alternatives Identified for Initial Screening Stations and Configurations				
Alternative	Mode	Configuration	Stations	Comments
1a	LRT	Underground / At-Grade	2 : One underground station located on Flower St. between 5th St. & 6th St. One at-grade station located on 2nd St. between Spring St. & Main St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 4th St., just below 3rd St. At-Grade Segments: Remaining alignment including under 2nd St. tunnel
1b	LRT	Underground / At-Grade	2: One at-grade station located on Flower St. between 4th St. & 3rd St. One at-grade station located on 2nd St. between Spring St. & Main St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 5th St., just below 4th St. At-Grade Segments: Remaining alignment including under 2nd St. tunnel
2	LRT	Underground / At-Grade / Aerial	3: One underground station located on Flower St. between 5th St. & 6th St. One aerial station located on Dewap Rd. & Temple St. One at-grade station located on Temple St. between Los Angeles St. & Judge John Aiso	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 4th St. , just below 3rd St. At-Grade Segments: 3rd St. and Figueroa St. and Temple St. Aerial Segments: Dewap Rd. headed north to Temple St.
3a	LRT	Underground / At-Grade	3: One underground station located on Flower St. between 5th St. & 4th St. One underground station located under Grand Ave Development One at-grade split station located adjacent to City Hall parcel, between Main St. & Los Angeles St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 4th St., just below 3rd St. and partial underground before 'punch' through 2nd St. tunnel. At-Grade Segments: Remaining alignment including under 2nd St. tunnel
3b	LRT	Underground / At-Grade	3: One at-grade station located on Flower St. between 3rd St. & 4th St. One underground station located under Grand Ave Development One at-grade split station located adjacent to City Hall parcel, between Main St. & Los Angeles St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 5th St., just below 4th St. and partial underground before 'punch' through 2nd St. tunnel. At-Grade Segments: Remaining alignment including under 2nd St. tunnel
4a	LRT	Underground / At-Grade	3: One at-grade station located on Flower St. between 3rd St. & 4th St. One underground station located under Grand Ave Development One at-grade station located on 2nd St. between Spring St. & Main St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 5th St., just below 4th St. and partial underground before 'punch' through 2nd St. tunnel. At-Grade Segments: Remaining alignment including under 2nd St. tunnel
4b	LRT	Underground / At-Grade	3: One underground station located between 4th St. & 5th St. One underground station located under Grand Ave Development One at-grade station located on 2nd St. between Spring St. & Main St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 4th St., just below 3rd St. and partial underground before 'punch' through 2nd St. tunnel. At-Grade Segments: Remaining alignment including under 2nd St. tunnel

Table 2-2 Alternatives Identified for Initial Screening Stations and Configurations				
Alternative	Mode	Configuration	Stations	Comments
5	LRT	Underground / At-Grade	3: One underground station located on Flower St. between 4th St. & 5th St. One underground station located under Grand Ave Development One underground station located on 2nd St. between Spring St. & Main St.	Underground Segments: Flower St. headed north from 7th St./Metro Center, under 2nd St. tunnel, until the vicinity of Central Ave. At-Grade Segments: Segment crossing Office Depot parcel
6	LRT	Underground / At-Grade	3: One underground station located at intersection of Flower St. & 5th St. One underground station located under Grand Ave Development One underground station located on 2nd St. between Los Angeles St. & San Pedro St.	Underground Segments: Entire alignment
7	LRT	Underground / At-Grade	3: One underground station located on Flower St. between 5th St. & 6th St. One underground station located under Grand Ave Development One at-grade station located on Los Angeles St. between Temple St. & 1st St.	Underground Segments: Flower St. headed north from 7th St./Metro Center until north of 4th St., just below 3rd St. and partial underground before 'punch' through 2nd St. tunnel. At-Grade Segments: Remaining alignment including 2nd St. tunnel
8	LRT	Underground / At-Grade	3: One underground station located on Flower St. between 4th St. & 5th St. One underground station located under Grande Ave Development One underground station located on Office Depot parcel	Underground Segments: Entire alignment

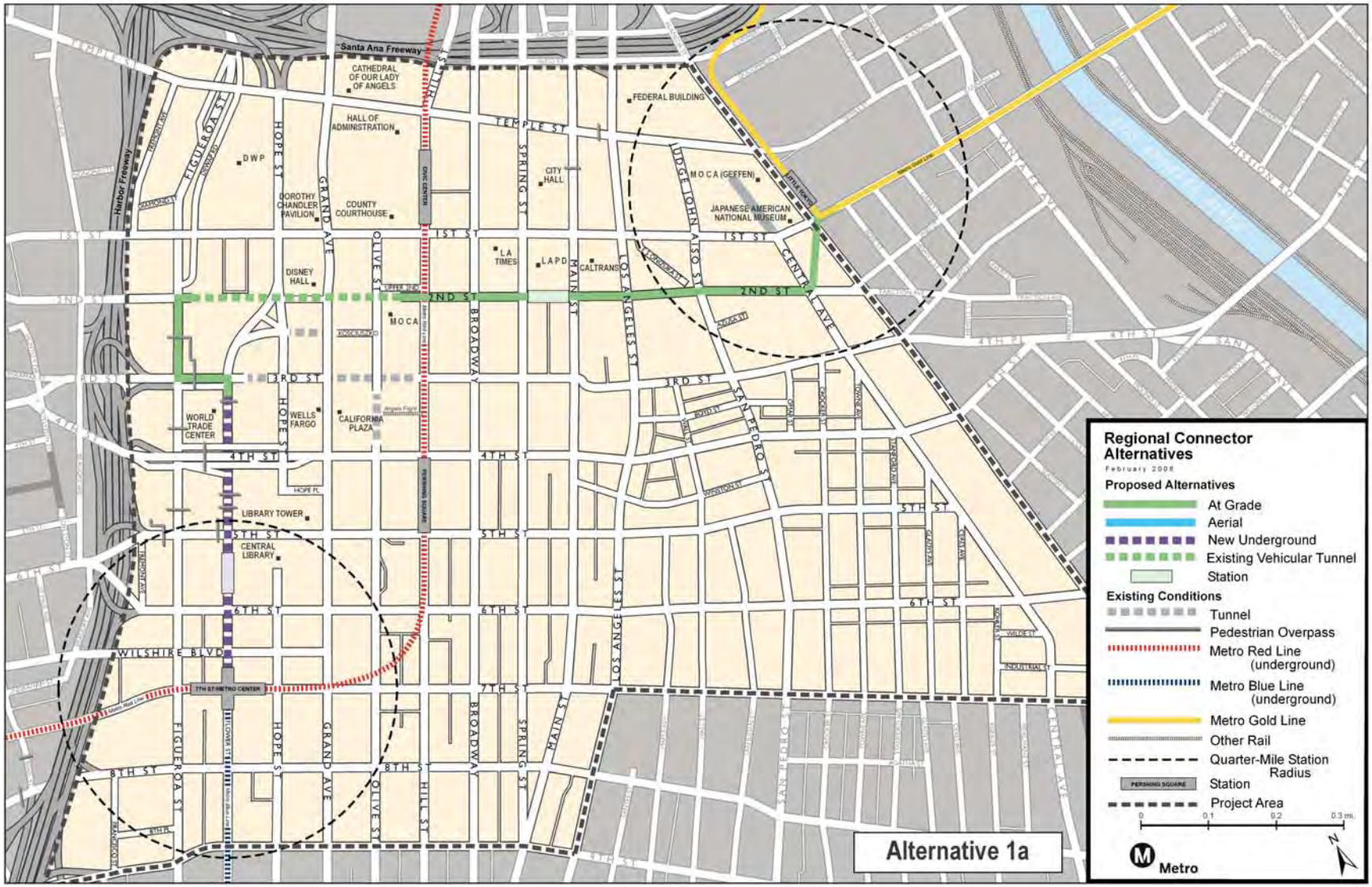


Figure 2-7 Alternative 1a

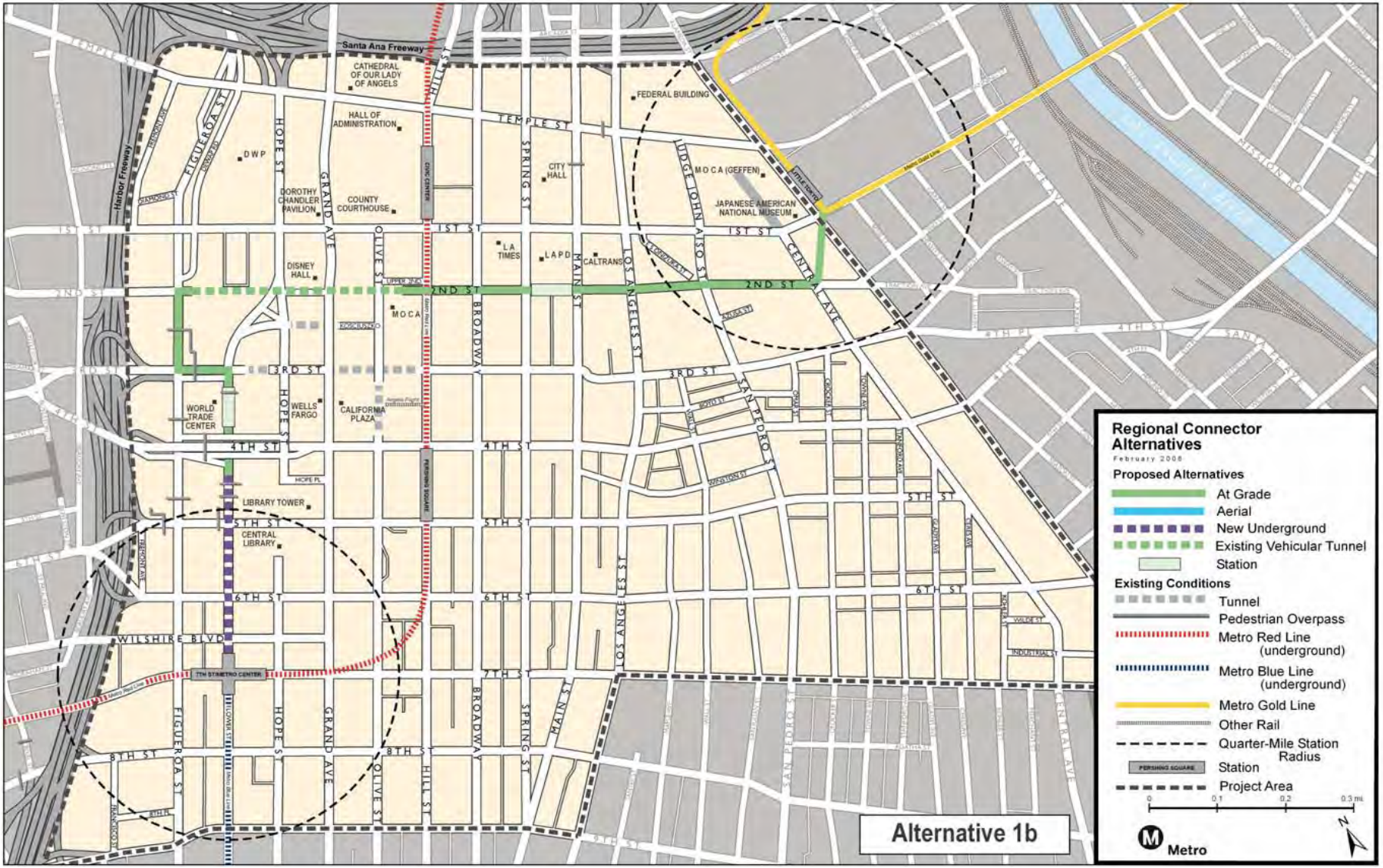


Figure 2-8 Alternative 1b

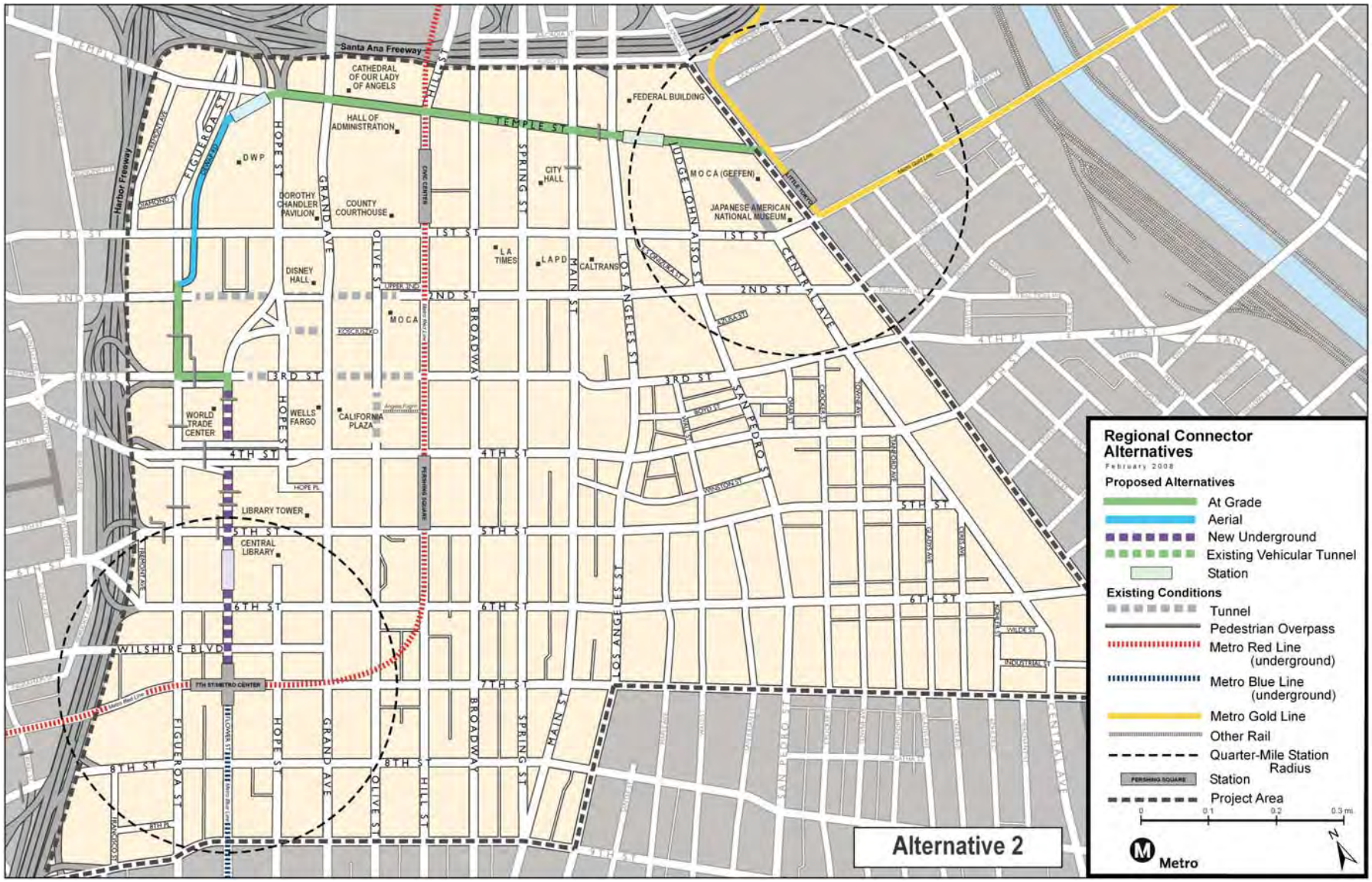


Figure 2-9 Alternative 2

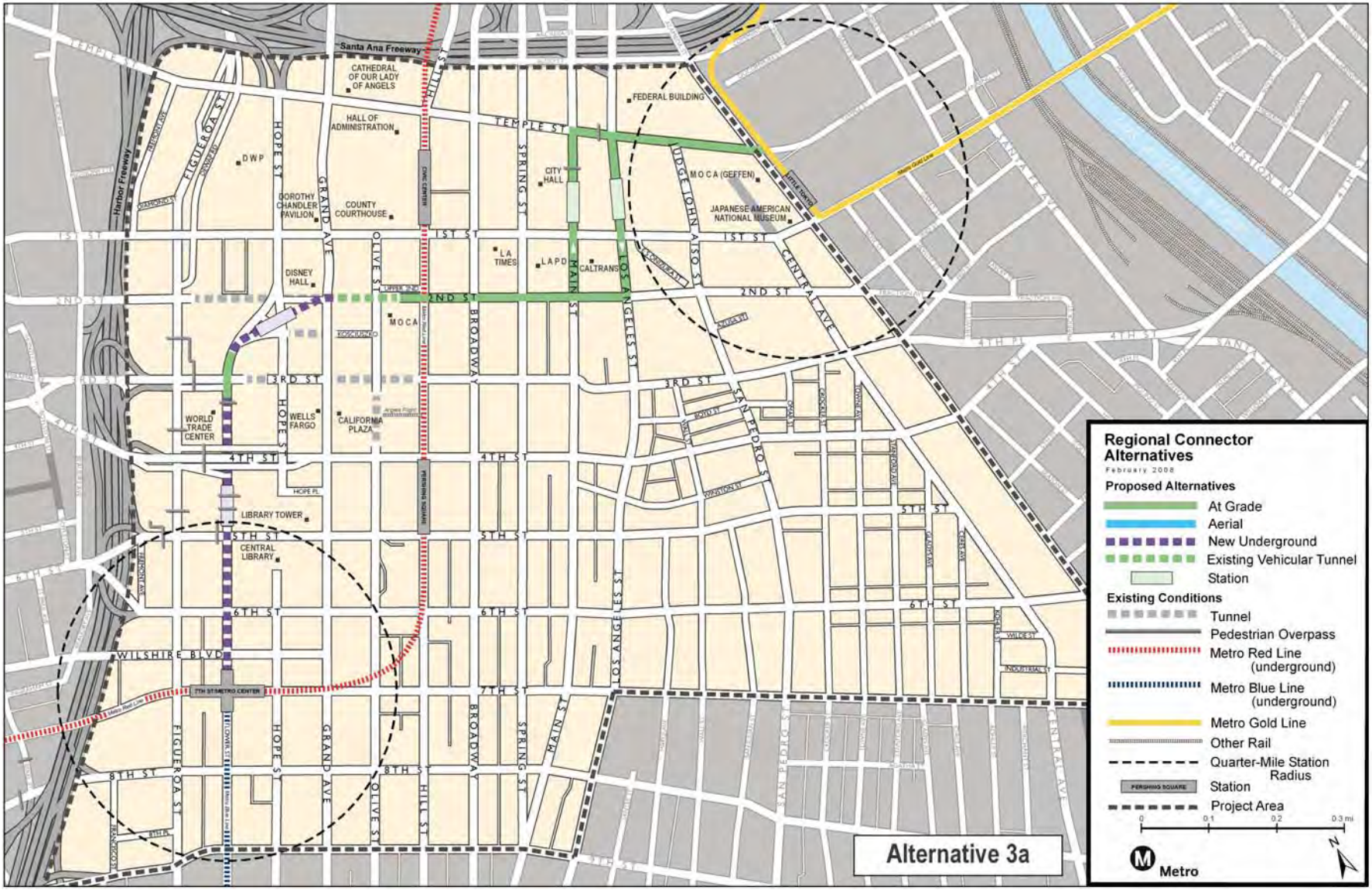


Figure 2-10 Alternative 3a

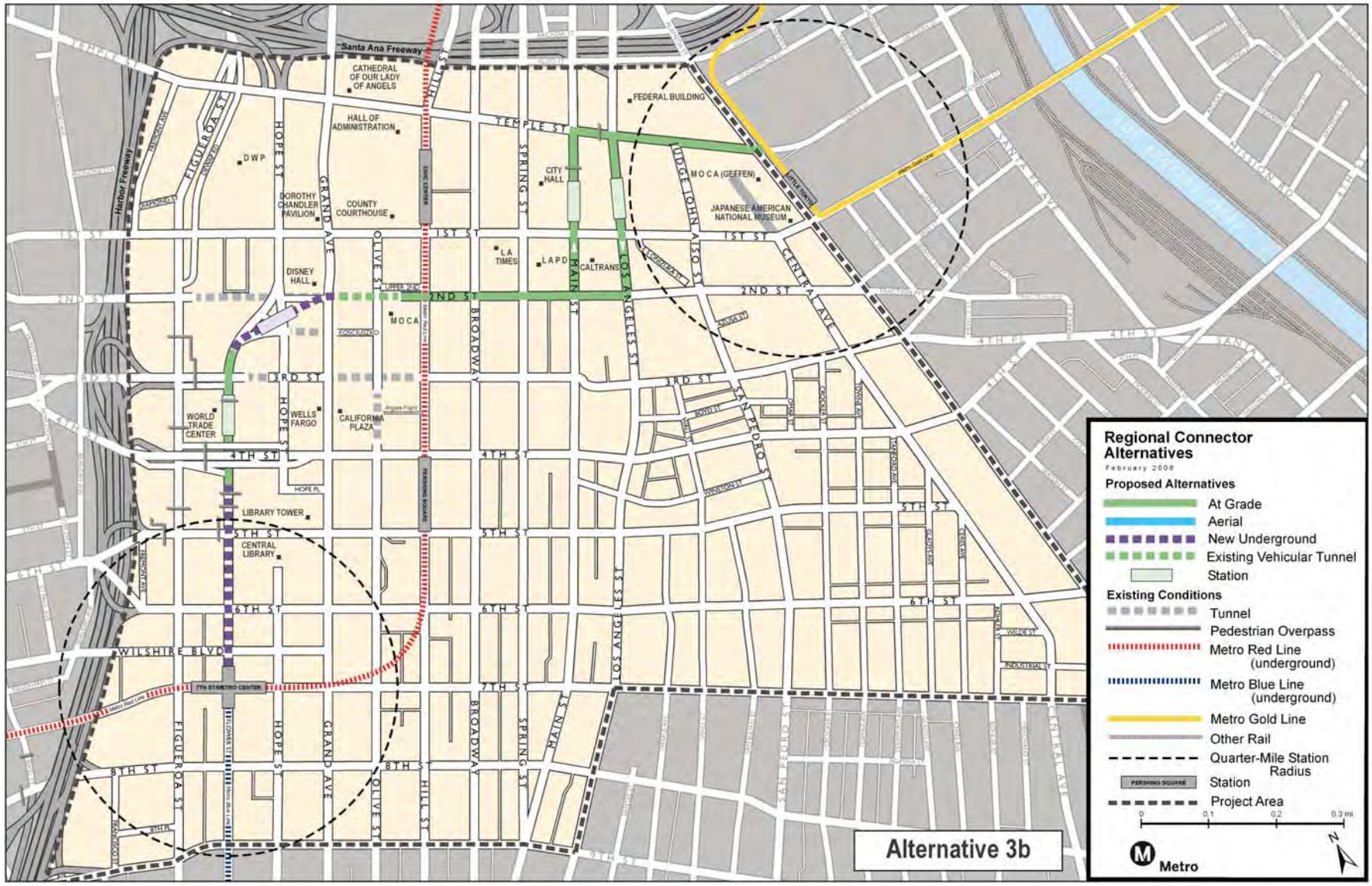


Figure 2-11 Alternative 3b

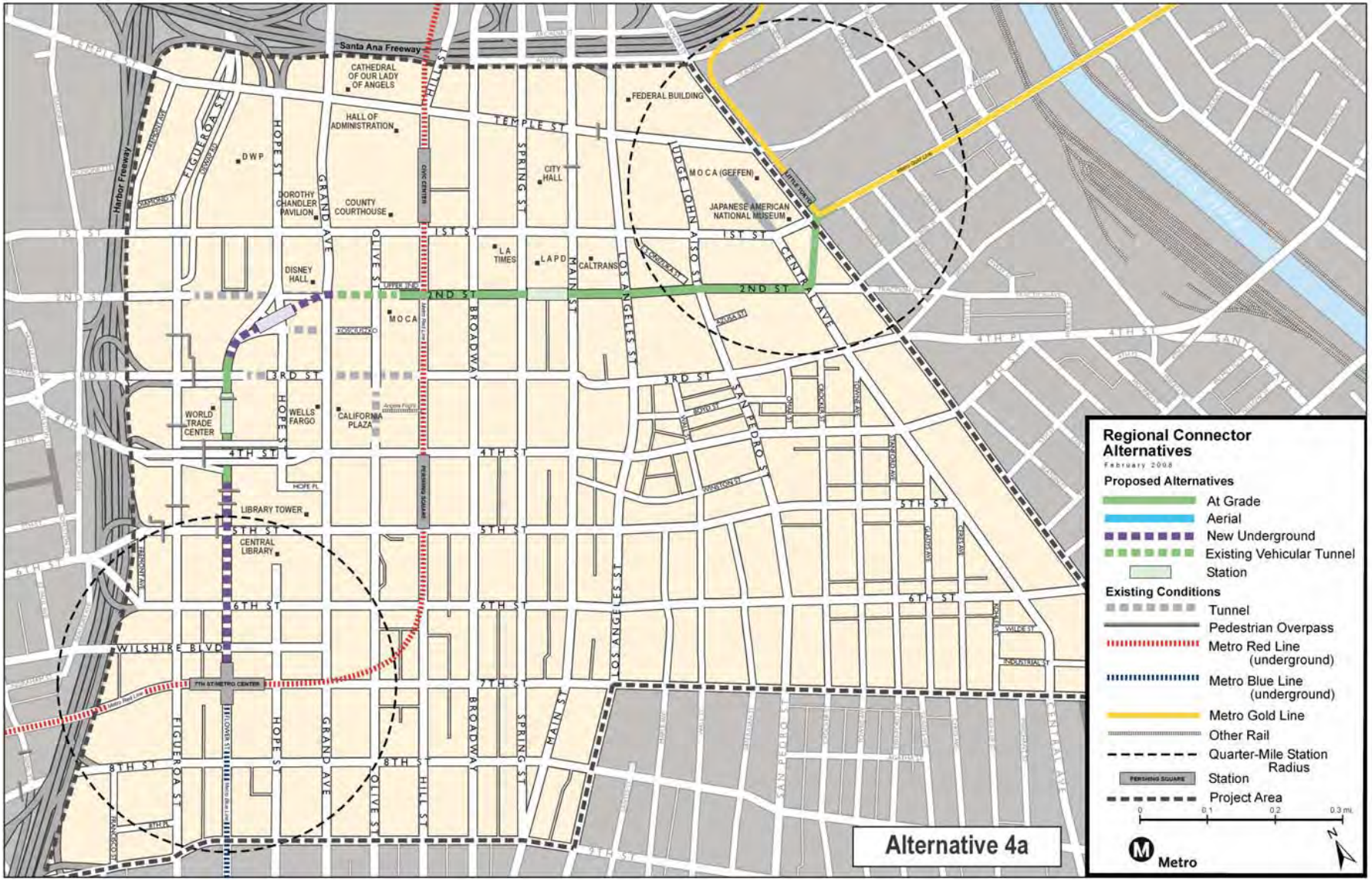


Figure 2-12 Alternative 4a

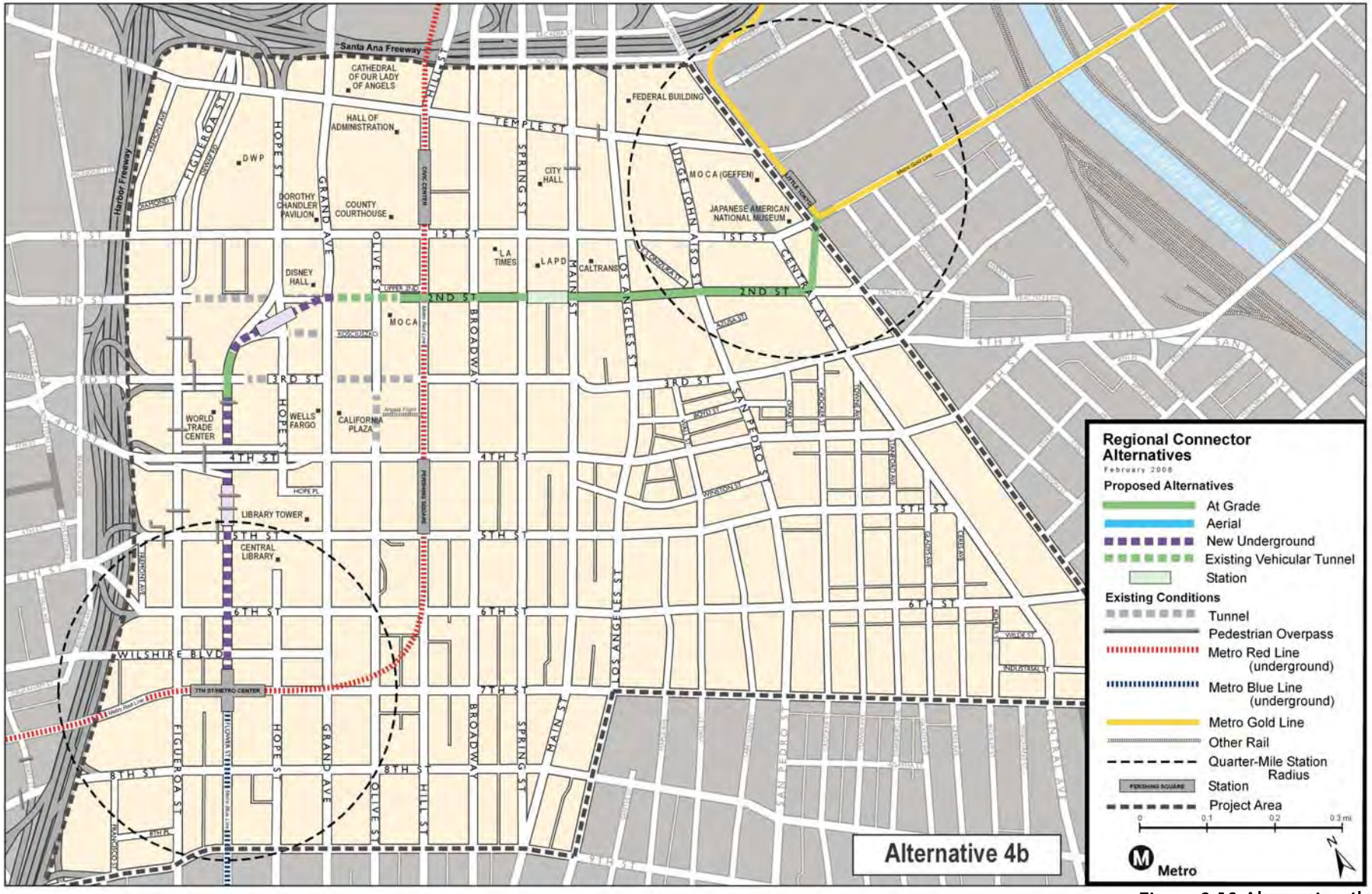


Figure 2-13 Alternative 4b

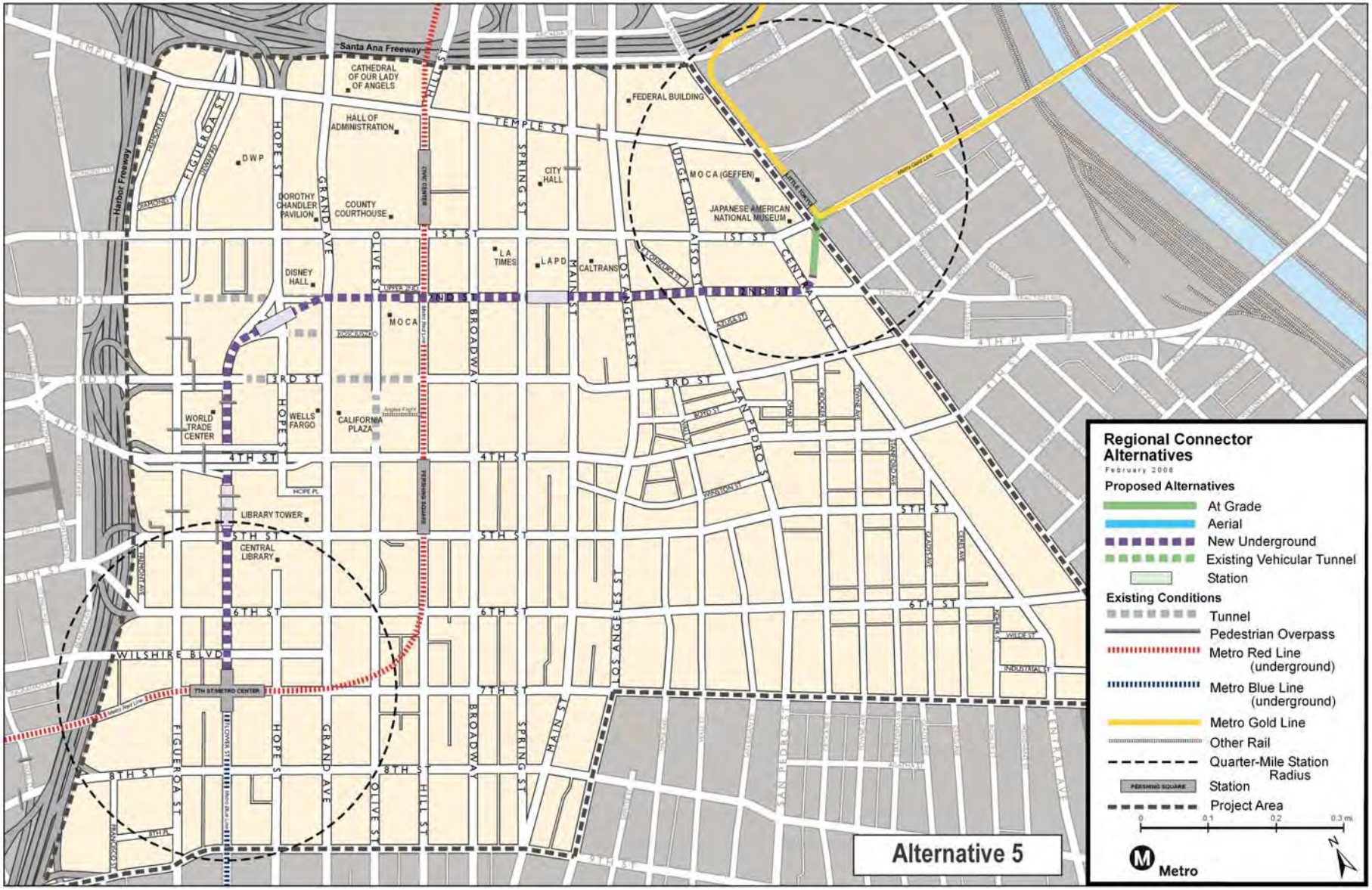


Figure 2-14 Alternative 5

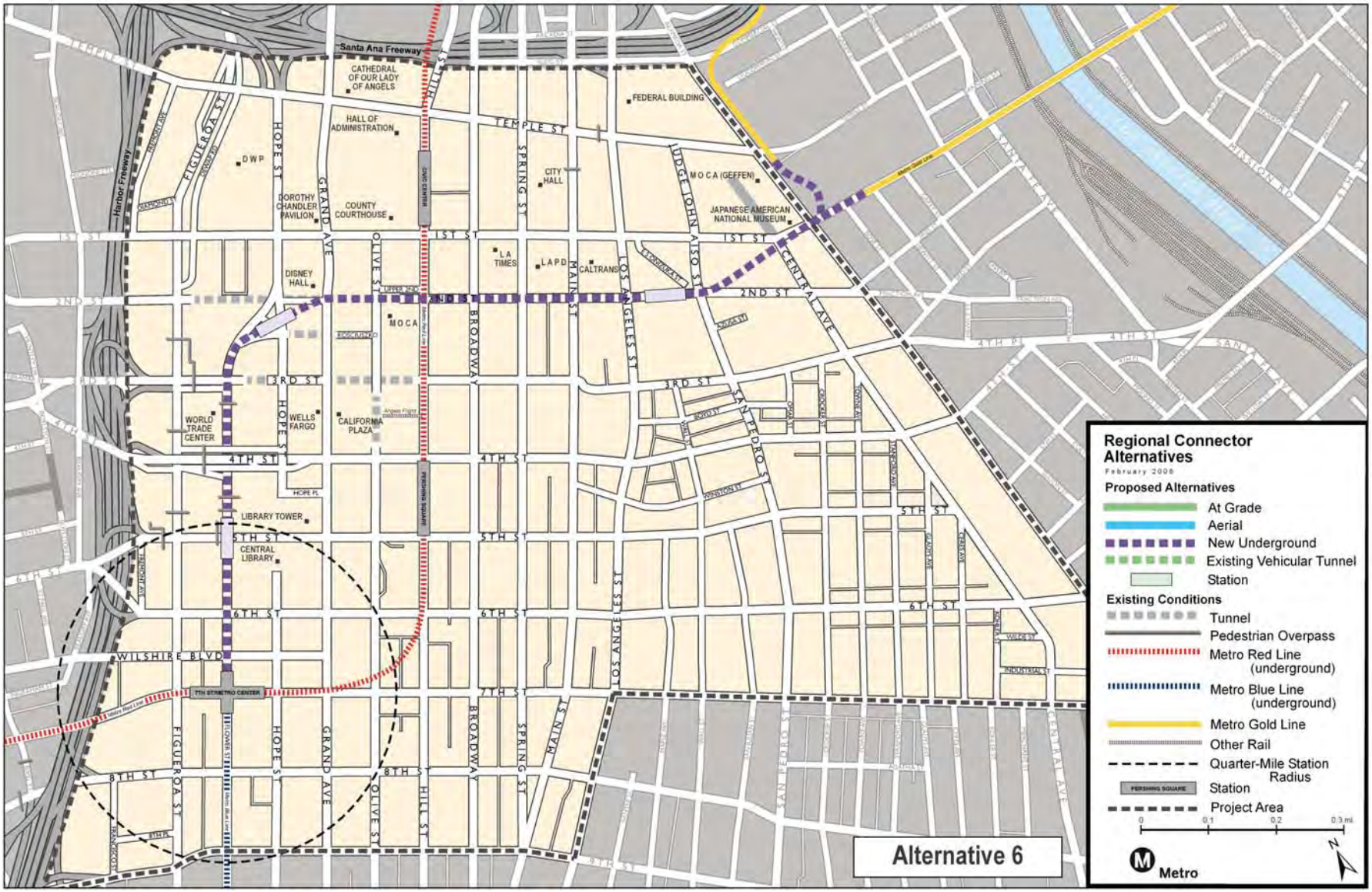


Figure 2-15 Alternative 6

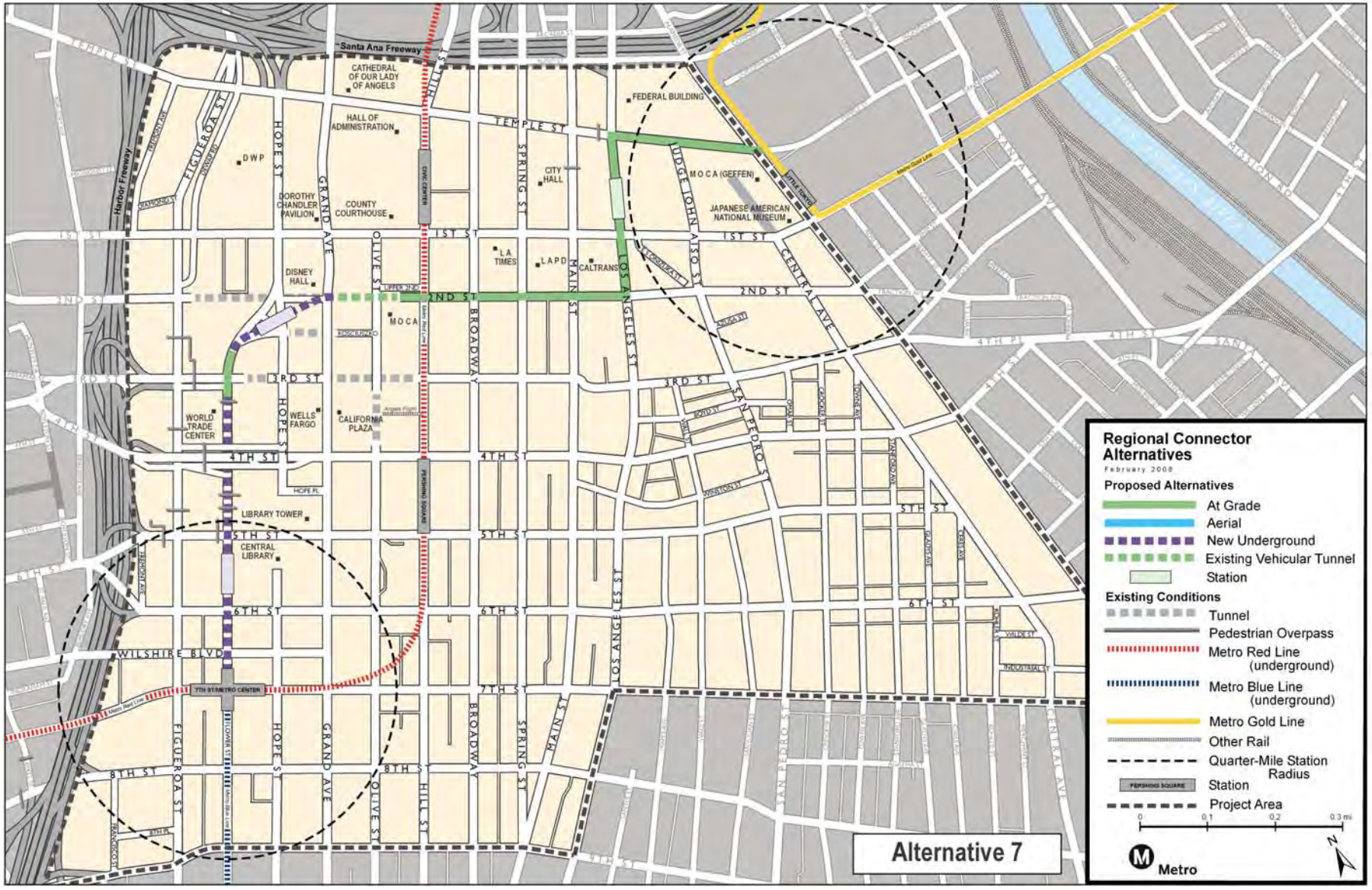


Figure 2-16 Alternative 7

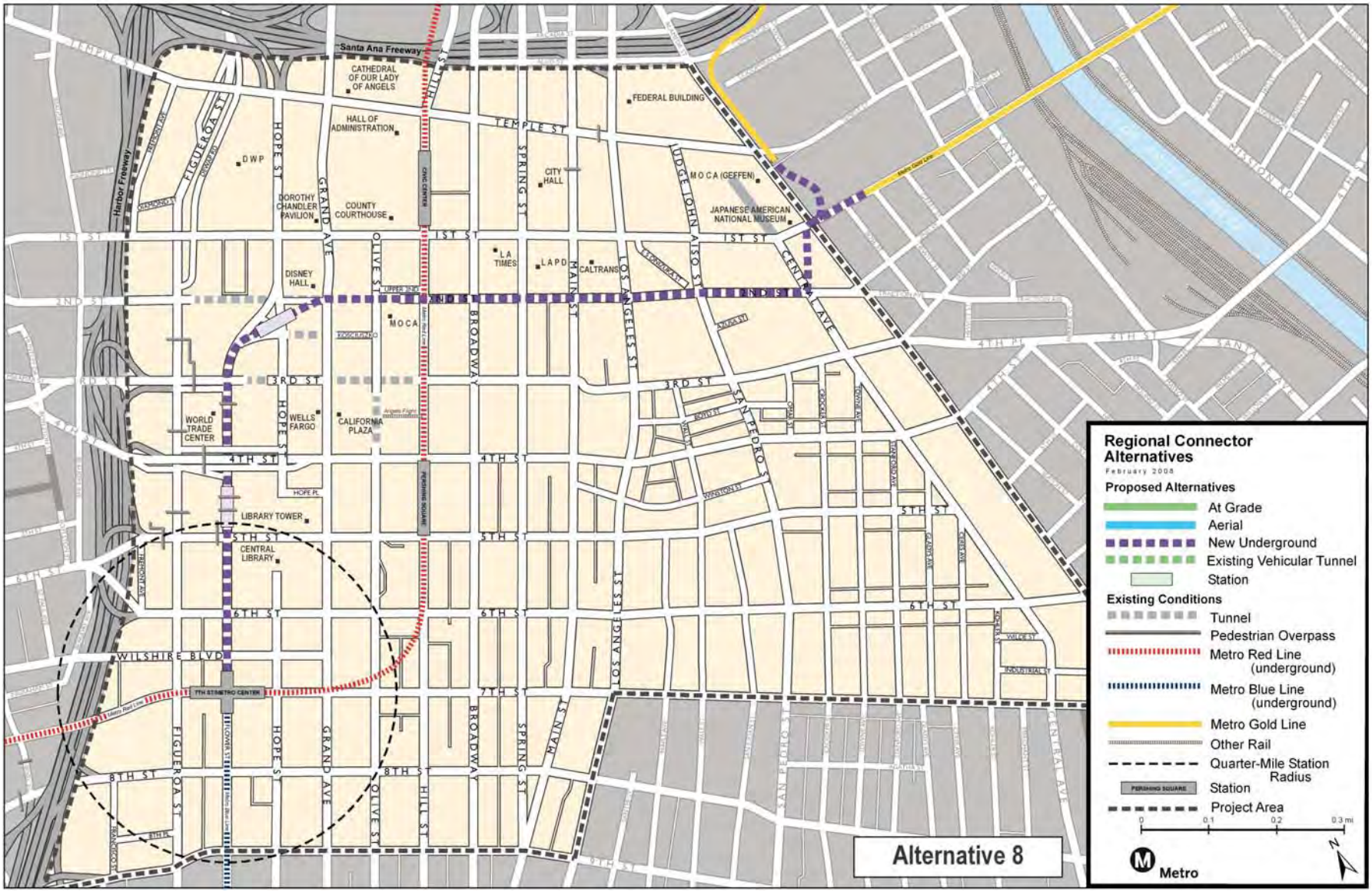


Figure 2-17 Alternative 8

Table 2-3 Constraints and Opportunities

General Station Location	Alignment	Constraints/Issues	Opportunities
2nd St. between Main St. and Spring St.	1a, 1b, 4a, 4b	*Narrow ROW on 2nd St *LAPD Headquarters currently under construction may cause traffic/emergency issues *Pedestrian safety outside high volume location *Station set back from street onto LAPD property	*Newly revitalized 2nd St. restaurants/bars/art spaces would be easily accessible *Station would be located in central location to LA Times, LAPD, Caltrans and only 1 block from City Hall and Civic Center *Modern/architectually significant design can be incorporated into LAPD Headquarters *Station will serve adjacent Little Tokyo community and Block 8 residential housing
Flower St. between 5th St and 6th St.	1a, 2, 7	*Station must be located considerably below Arco Plaza underground shopping center- geotechnical/soil issues *Arco Plaza underground shopping center - physical as well as noise, vibration	*Opportunity to incorporate station into Arco Plaza shopping center *Opportunity to incorporate station into Central Library *Central location to financial/business core
Flower St. between 3rd St and 4th St.	1b, 3b, 4a	*Station is located in partially isolated area *Station is located underneath pedestrian bridge - contruction issues *Station may cause security issues at World Trade Center	*Station is located adjacent to World Trade Center *Station is located within walking distance of business as well as residential properties
Temple St. between Los Angeles St. and Judge John Aiso St.	2	*Station is located adjacent to federal buildings as well as new metropolitan detention center which may cause security issues *Transient activity at station would need constant vigilance	*Station is adjacent to Civic Center *Station is located next to arts' centers such as MOCA's Geffen, The Japanese American Museum, and the future Children's Art Park *Station design may tie into the adjacent arts institutions *Opportunities to revitalize the LA Mall
Dewapp St. between Figueroa St. and Hope St.	2	*Structural issues on elevated Dewapp St *DWP property availability *Pedestrian safety at station and Hope St. due to 101 fwy on/off ramps	*Station serves city offices such as DWP, Health Services Administration, and the Los Angeles building *Station is located adjacent to Grand Ave Project and arts' centers such as Dorothy Chandler and Disney Hall *Station is one block from Our Lady of the Angels Cathedral
Flower St. between 4th St. and 5th St.	9a, 4b, 5, 8	*Station located under Bonaventure Hotel - noise/vibration issues	*Station is located in central location to financial core and LA Library *Central location and popular stop among tourists and visitors to downtown Los Angeles
Grand Avenue Development	3a, 3b, 4a, 4b, 5, 6, 7, 8	*Adverse effects to 2nd St. tunnel structure *Incorporation of station into residential housing above *Incorporation of station adjacent to Grand Ave Project underground parking/storage/facilities *Location of entrance/exit portal on street level	*Incorporation of station design and artwork with the Grand Ave Development *Ideal location for tourists and visitors to arts/theater districts - encourage activity *Exit from station would be located at the top of Bunker Hill, making for easier pedestrian movement *Station portals can serve both upper Grand Ave as well as businesses on 3rd and Flower
Main St. and Los Angeles St. between Temple St. and 1st St. (Couplet)	3a, 3b	*Station is located on City Hall Parcel - possible security issues *Station would cause for removal of public open space	*Station serves Civic Center and public services buildings *Station is located one block from Little Tokyo district *Station can serve as 'link' for the eastern portion of future Civic Park
Los Angeles St. between Temple St. and 1st St.	7	*Station would require removal of center median/trees on Los Angeles St. *Station is adjacent to metropolitan detention center - possible security issues	*Station serves Civic Center and public services buildings *Station is located one block from Little Tokyo district
2nd St. between Main St. and Spring St.	5,8	*Station may conflict with LAPD underground facilities *Station may conflict with LA Times underground facilities	*Station does not impact surface level traffic and/or narrow 2nd St. ROW *Station serves surrounding Civic and arts establishments *Station is within reasonable walking distance of Little Tokyo district and Historic Core
2nd St. between Los Angeles St. and San Pedro St.	6	*Station and portals may cause noise issues for Block 8 residential development above	*Station is adjacent to Little Tokyo district and may incorporate art/cultual architecture *Station is in relatively close distance to all Little Tokyo residential housing *Opportunity to incorporate station into Block 8 development *Station is located adjacent to Historic Core and new Arts districts along 3rd St.
6th St. and Flower St. (Under Intersection)	6	*Station must be located considerably below Arco Plaza underground shopping center- geotechnical/soil issues *Arco Plaza underground shopping center - physical as well as noise, vibration	*Opportunity to incorporate station into Arco Plaza shopping center *Opportunity to incorporate station into Central Library *Central location to financial/business core

Table 2-4 Goal 1: Support Community Planning Efforts

Goal 1: Support Community Planning Efforts	*Support land use policies and Community Plans *Support and coordinate with development and redevelopment efforts *Support the City's efforts to improve urban design and the pedestrian environment by contributing to a healthy environment *Support efforts to improve safety and security for downtown residents, employees and visitors *Support transit dependent communities										
Alternative	**1a**	**1b**	**2**	**3a**	**3b**	**4a**	**4b**	**5**	**6**	**7**	**8**
Total Length of Alignment (Miles)	1.83	1.83	1.88	2.03	2.03	1.62	1.62	1.62	1.65	1.69	1.67
Total Area within One Quarter Mile of Alignment	1.04	1.04	1.11	1.02	1.02	0.98	0.98	0.98	0.98	1	0.98
1.a Population, Population Density, Households, Housing Density for year 2030 within 1/4 mile of alignments											
Population (within 1/4 mile of alignment)	11,926	11,926	11,323	10,889	10,889	10,997	10,997	10,997	10,997	10,760	10,997
Population (within 1/4 mile of all stations)	2,038	4,073	3,091	6,578	8,245	7,786	6,119	6,119	6,437	5,449	6,119
Population Density (within 1/4 mile of alignment)	11,467 persons per square mile	11,467 persons per square mile	10,201 persons per square mile	10,675 persons per square mile	10,675 persons per square mile	11,201 persons per square mile	11,201 persons per square mile	11,201 persons per square mile	11,201 persons per square mile	10,760 persons per square mile	11,201 persons per square mile
Households (within 1/4 mile of alignment)	9,122	9,122	7,794	8,523	8,523	8,744	8,744	8,744	8,744	8,467	8,744
Households (within 1/4 mile of all stations)	1,611	3,047	2,128	5,002	6,183	5,770	4,589	4,589	5,003	4,132	4,589
Household Density (within 1/4 mile of alignment)	8,771 units per square mile	8,771 units per square mile	7,022 units per square mile	8,356 units per square mile	8,356 units per square mile	8,922 units per square mile	8,922 units per square mile	8,922 units per square mile	8,922 units per square mile	8,467 units per square mile	8,922 units per square mile
1.b Transit Oriented Design supportive plans and policies in place (Score 1 -worst- to 5-best)											
	Low number of stations to take advantage of TOD plans and policies *LA City General Plan *CRA 2006 Streetcar Study *CRA Identified Redevelopment Areas *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **2**	Same as 1a **2**	*LA City General Plan *CRA 2006 Streetcar Study *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **2**	*LA City General Plan *CRA 2006 Streetcar Study *CRA Identified Redevelopment Areas *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **4**	Same as 3a **4**	Track alignment on 2nd Street between Central and Los Angeles is inconsistent with TOD plans *LA City General Plan *CRA 2006 Streetcar Study *CRA Identified Redevelopment Areas *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **3**	Track alignment on 2nd Street between Central and Los Angeles is inconsistent with TOD plans *LA City General Plan *CRA 2006 Streetcar Study *CRA Identified Redevelopment Areas *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **3**	Same as 3a **5**	This alternative requires removal of the existing Little Tokyo/Artist District Station which is inconsistent with TOD plans. *LA City General Plan *CRA 2006 Streetcar Study *CRA Identified Redevelopment Areas *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **2**	Same as 1a **5**	This alternative requires removal of the existing Little Tokyo/Artist District Station which is inconsistent with TOD plans. *LA City General Plan *CRA 2006 Streetcar Study *CRA Identified Redevelopment Areas *CRA City Center Redevelopment Plan *Little Tokyo Planning & Design Guidelines **2**
1.c Number of jobs, employment density for year 2030 within 1/4 mile of alignment											
Employment (within 1/4 mile of alignment)	129,833	129,833	150,997	133,888	133,888	124,110	124,110	124,110	124,110	132,547	124,110
Employment (within 1/4 mile of all stations)	46,153	44,062	76,366	107,310	109,174	79,395	77,531	77,531	71,066	84,699	77,531
Employment Density (within 1/4 mile of alignment)	129,833 jobs per square mile	124,839 jobs per square mile	136,033 jobs per square mile	131,263 jobs per square mile	131,263 jobs per square mile	126,643 jobs per square mile	126,643 jobs per square mile	126,643 jobs per square mile	126,643 jobs per square mile	132,547 jobs per square mile	126,643 jobs per square mile
1.d Number of direct connections to key activity centers within 1/4 mile of alignment (Score 1 -worse to 5 best)	**2** (based on the number of stations for this alternative)	**2** (based on the number of stations for this alternative)	**3**	**5**	**5**	**5**	**5**	**5**	**3** (based on the removal of the Little Tokyo/Arts District Station for this alternative)	**4** (based on single platform versus split platform)	**3** (based on the removal of the Little Tokyo/Arts District Station for this alternative)
Scores by Station:	2nd @ Spring, Main & Broadway **5**	2nd @ Spring, Main & Broadway **5**	Temple between Los Angeles Streets and Aliso **5**	Split Platforms @ Main and Los Angeles **5**	Split Platforms @ Main and Los Angeles **5**	2nd @ Spring, Main and Broadway **5**	2nd @ Spring, Main & Broadway **5**	2nd between Spring & Main **5**	2nd between Los Angeles & San Pedro **5**	Los Angeles between 1st & Temple **5**	2nd between Spring & Main **5**
	Between 5th & 6th on Flower **5**	Between 3rd & 4th on Flower **3**	Temple Street, Dewap Road and Hope Streets **4**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**	2nd & Hope under Grand Avenue Development **5**
			Between 5th & 6th on Flower **5**	Between 4th & 5th on Flower **5**	Between 3rd & 4th on Flower **3**	Between 3rd & 4th on Flower **3**	Between 4th & 5th on Flower **5**	Between 4th & 5th on Flower **4**	5th & Flower **5**	Between 5th & 6th on Flower **5**	Between 4th & 5th on Flower **5**
1.e Number of opportunities for redevelopment within 1/4 mile of alignment (underdeveloped or underutilized properties along alternative alignment)	9	9	5	8	8	9	9	9	9	8	9

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Table 2-5 Goal 2: Support Public Involvement and Community Preservation

Goal 2:
Support Public Involvement and Community Preservation

*Balance the benefits and impacts to low income and minority communities
*Enable workers and visitors to gain access to the regional center to increase its economic vitality and benefit from its economic opportunity

Alternative	1a	1b	2	3a	3b	4a	4b	5	6	7	8
Total Length of Alignment (Miles)	1.83	1.83	1.88	2.01	2.01	1.62	1.62	1.62	1.65	1.69	1.67
Total Area within One Quarter Mile of Alignment	1.04	1.04	1.11	1.02	1.02	0.98	0.98	0.98	0.98	1	0.98
2.a Evaluation of potential disproportionate effects: Environmental justice effect will be evaluated per CEQA/NEPA requirements (Score 1 to 5)	1	1	4	4	4	1	1	2	5	4	5
2.b Initial areas identified for potential acquisitions for stations and alignment (does not include actually in construction) within 1/4 mile of alignment	4 Locations	3 Locations	2 Locations	2 Locations	1 Location	4 Locations	5 Locations	4 Locations	5 Locations	2 Locations	5 Locations
2.c Evaluation of potential disproportionate effects: Number of low income HH within 1/4 mile of proposed alignment											
# of Low income HH	3,390/9,602 or 35.3%	3,390/9,602 or 35.3%	2,590/8,830 or 29.3%	3,702/10,680 or 34.7%	3,702/10,680 or 34.7%	3,390/9,602 or 35.3%	3,390/9,602 or 35.3%	3,390/9,602 or 35.3%	3,390/9,602 or 35.3%	3,702/10,680 or 34.7%	3,390/9,602 or 35.3%
Number of SROs and Shelters	20 (approximately 1,042 beds/rooms)	20 (approximately 1,042 beds/rooms)	16 (approximately873 beds/rooms)	19 (approximately 997 beds/rooms)	19 (approximately 997 beds/rooms)	20 (approximately 1,042 beds/rooms)	20 (approximately 1,042 beds/rooms)	20 (approximately 1,042 beds/rooms)	20 (approximately 1,042 beds/rooms)	19 (approximately 997 beds/rooms)	20 (approximately 1,042 beds/rooms)
Number of Homeless Service Providers	9	9	5	9	9	9	9	9	9	9	9
2.d Number of residents by ethnicity within 1/4 mile of alignment (US Census)											
	White 3,163	White 3,163	White 2,146	White 3,105	White 3,105	White 3,163	White 3,163	White 3,163	White 3,163	White 3,105	White 3,163
	African American 3,390	African American 3,390	African American 2,359	African American 3,437	African American 3,437	African American 3,390	African American 3,390	African American 3,390	African American 3,390	African American 3,437	African American 3,390
	American Indian/Eskimo 119	American Indian/Eskimo 119	American Indian/Eskimo 54	American Indian/Eskimo 103	American Indian/Eskimo 103	American Indian/Eskimo 119	American Indian/Eskimo 119	American Indian/Eskimo 119	American Indian/Eskimo 119	American Indian/Eskimo 103	American Indian/Eskimo 119
	Asian 4,699	Asian 4,699	Asian 8,635	Asian 8,978	Asian 8,978	Asian 4,699	Asian 4,699	Asian 4,699	Asian 4,699	Asian 8,978	Asian 4,699
	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/ PI 23	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/PI 23	Hawaiian/PI 23
	Other 54	Other 54	Other 48	Other 60	Other 60	Other 54	Other 54	Other 54	Other 54	Other 60	Other 54
	Two or More 322	Two or More 322	Two or More 275	Two or More 334	Two or More 334	Two or More 322	Two or More 322	Two or More 322	Two or More 322	Two or More 334	Two or More 322
	Hispanic 7,769	Hispanic 7,769	Hispanic 8,810	Hispanic 5,861	Hispanic 5,861	Hispanic 7,769	Hispanic 7,769	Hispanic 7,769	Hispanic 7,769	Hispanic 5,861	Hispanic 7,769
2.e Urban fit potential for alignments and for stations, including physical scale, visual fit, and cultural preservation	1	1	3	4	4	2	2	4	3	4	3
Scores by Station:	2nd @ Spring, Main& Broadway 3	2nd @ Spring, Main& Broadway 3	Temple & Los Angeles 5	Split Platform @ Los Angeles Street and Main Street 5, 4	Split Platform @ Los Angeles Street and Main Street 5,4	2nd @ Spring, Main& Broadway 4	2nd @ Spring, Main& Broadway 4	2nd between Main and Spring 4	Los Angeles and San Pedro on 2nd 3	Los Angeles Street between 1st and Temple 5	2nd between Main and Spring 4
	Between 5th & 6th on Flower 5	Between 3rd & 4th on Flower 2	Temple Street, Dewap Road & Hope Street 4	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5	2nd & Hope under Grand Avenue Development 5
			Between 5th & 6th on Flower 5	Between 4th & 5th on Flower 3	Between 3rd & 4th on Flower 2	Between 3rd & 4th on Flower 2	Between 4th & 5th on Flower 3	Between 4th & 5th on Flower 3	5th on Flower 5	Between 5th & 6th on Flower 5	Between 4th & 5th on Flower 3
2.f Percentage of service grade separated	22%	13%	39%	34%	21%	24%	34%	91%	103%	32%	103%
Total underground - new tunnel & existing 2nd St. tunnel	44%	33%	36%	46%	38%	49%	60%	94%	*103% (includes grade separating some of the Eastside Extension)	56%	103%
2.g Community Acceptance (High, Medium, Low)	Low	Low	Medium	High	High	Medium	Medium	High	Low	Medium	Low

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Table 2-6 Goal 3: Improve Mobility and Availability both Locally and Regionally

Goal 3:
Improve Mobility and Accessibility both Locally and Regionally

*Improve the connectivity of the regional transit service and provide a more attractive travel alternative for residents, workers and visitors in the region
*Facilitate sustainable regional development
*Increase ridership of the Metro transit system and reduce single occupany trips
*Maintain or enhance transit services to the transit dependent
*Improve travel time for transit users system-wide
*Improve person throughput
*Reduce growth of congestion in corridor

Alternative	1a		1b		2		3a		3b		4a		4b		5		6		7		8	
Total Length of Alignment (Miles)	1.83		1.83		1.88		2.03		2.03		1.62		1.62		1.62		1.65		1.69		1.67	
Total Area within One Quarter Mile of Alignment	1.04		1.04		1.11		1.02		1.02		0.98		0.98		0.98		0.98		1		0.98	
3.a Increase in daily transit boardings (amount of transit users increased compared to No Build)	9,570	1	9,570	1	8,590	1	10,125	2	10,125	2	11,524	2	11,524	2	19,768	5	14,457	3	10,125	2	14,457	3
3.b New daily transit trips compared to No Build and Transportation System Management (TSM) alternatives																						
No Build	5,787	2	5,787	2	4,670	1	5,165	2	5,165	2	6,984	4	6,984	4	8,099	5	7,548	4	5,165	2	7,548	4
3.c Traffic impacts (**Number of intersections** with E or F Level of Service)	5		5		4		3		3		5		5		1		1		2		1	
3.d Reduction in number of transfers system-wide by operational plan of alignment (Daily reductions at US & 7th/Metro)	21,100	2	21,100	2	18,400	1	20,600	2	20,600	2	22,100	3	22,100	3	25,900	5	23,200	3	20,600	2	23,200	3
3.e Total number of lanes reduced (cumulative for all streets)	19		22		21		24		27		20		17		0		0		21		0	
3.f Number of potentially impacted intersections	11		12		12		12		13		10		9		1		1		10		1	
3.g Peak period travel time through Regional Connector Alignment (including 5 min foe each transfer)																						
North-South : US to 7th/Metro	12.60 min		12.60 min		11.80 min		11.50 min		11.50 min		12.30 min		12.30 min		7.60 min		7.10 min		11.50 min		7.10 min	
East-West: 1st /Utah (to US) to 7th/Metro	10.70 min		10.70 min		12.55 min		11.95 min		11.95 min		10.40 min		10.40 min		6.85 min		6.40 min		11.95 min		6.40 min	
3.h Number of Left Turn Pockets affected	3		5		15		8		10		2		0		4		3		10		3	
3.i Number of on-street public parking spaces	99		99		31		88		88		99		99		0		0		70		0	
3.j Number of driveways affected	21		25		21		26		30		22		18		2		0		21		0	
3.k daily hours of transportation user benefits (Compared to No Build)	8,855		8,855		7,231		8,938		8,938		9,271		9,271		12,045		11,222		8,938		11,222	

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Note for 3c,3e,3f,3h,3i:
Assumptions:
-Center running LRT with center stations.
-Train envelope (influence area) for one center running track and no station is 13 feet = one lane width.
-Train envelope (influence area) for one center running track with center station is 26 feet = two lane widths.
-Train envelope (influence area) for two center running tracks and no station is 26 feet = two lane widths.
-Train envelope (influence area) for two center running tracks with center station is 39 feet = three lane widths.
-For all alternative alignments it is assumed that at least one traffic lane will be available and operational in each direction.
-Right of way will be provided if difference between the street curb to curb width and the train envelope is less than the width needed to accomodate a traffic lane in each direction of travel.

Table 2-7 Goal 4: Support Efforts to Improve Environmental Quality

Goal 4:
Support Efforts to Improve Environmental Quality

*Minimize adverse environmental impacts
*Implement mitigation measures to reduce environmental effects to acceptable levels
*Reduce emissions and improve air quality

Alternative	1a		1b		2		3a		3b		4a		4b		5		6		7		8	
Total Length of Alignment (Miles)	1.83		1.83		1.88		2.03		2.03		1.62		1.62		1.62		1.65		1.69		1.67	
Total Area within One Quarter Mile of Alignment	1.04		1.04		1.11		1.02		1.02		0.98		0.98		0.98		0.98		1		0.98	
4.a Noise (Number of curves for LRT alignment)	5		5		5		6		6		3		3		3		2		4		2	
4.b Potential visual impacts to notable architectural resources within 1/4 mile of alignment (Score 1 to 5)	2		5		3		1		2		5		3		4		5		1		5	
4.c Number of Potential Sensitive Receptors within a 1/4 mile of alignment (Score 1 to 5)	5		5		4		5		5		5		5		5		5		5		5	
4.d Potential impacts to historically significant locations within 1/4 of alignment (Score 1 to 5)	203	4	203	4	188	5	217	2	217	2	203	4	203	4	203	4	203	4	209	3	203	4
4.e Geologic and geotechnical issues along alignment (Score 1 to 5)	3		4		3		2		2		2		2		1		1		2		1	
Length Underground	2,000 ft		1200 ft		1900 ft		3,000 ft (w/punch)		2,050 ft (w/punch)		2,000 ft (w/punch)		2,800 ft (w/punch)		7,500 ft		8,200 ft		3,000 ft (w/punch)		8,300 ft	

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Table 2-8 Goal 5: Provide a Cost Effective Alternative Transportation System

Goal 5:
Provide a Cost Effective Alternative Transportation System

*Increase ridership on the Metro system
*Minimize cost per passenger
*Maximize travel time savings

Alternative	1a		1b		2		3a		3b		4a		4b		5		6		7		8	
Total Length of Alignment (Miles)	1.83		1.83		1.88		2.03		2.03		1.62		1.62		1.62		1.65		1.69		1.67	
Total Area within One Quarter Mile of Alignment	1.04		1.04		1.11		1.02		1.02		0.98		0.98		0.98		0.98		1		0.98	
5.a Rough order of magnitude annual O & M (2008 $) costs per alignment (Millions)	$17 M	1	$17 M	1	$17 M	1	$17 M	1	$17 M	1	$17 M	1	$17 M	1	$2 M	5	$2 M	5	$17 M	1	$2 M	5
5.b User cost - Cost Effectiveness compared to Bo Build ($/hour of transit user benefit)	21	2	19	3	26	1	25	1	23	2	21	2	23	2	13	5	15	4	25	1	15	4

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Table 2-9 Goal 6: Achieve a Financially Feasible Project

Goal 6: Achieve a Financially Feasible Project	*Opportunities for private/public funding *Opportunities for Federal and outside funding																	
Alternative	**1a**		**1b**		**2**		**3a**		**3b**		**4a**		**4b**		**5**		**6**		**7**		**8**	
Total Length of Alignment (Miles)	1.83		1.83		1.88		2.03		2.03		1.62		1.62		1.62		1.65		1.69		1.67	
Total Area within One Quarter Mile of Alignment	1.04		1.04		1.11		1.02		1.02		0.98		0.98		0.98		0.98		1		0.98	
6.a ROM Capital costs- total and per mile per alignment (millions) (2008 $)	$528	4	$441	5	$561	3	$707	1	$640	2	$571	3	$658	2	$643	2	$740	1	$693	2	$744	1
	$301	4	$254	5	$322	4	$424	2	$339	3	$367	3	$418	2	$414	2	$477	1	$385	3	$473	1
6.b Evaluation of availability and eligibility of capital funds at federal/state/local levels to construct, operate and maintain (Score 1 to 5)																						
Federal (CEI)	2		3		1		1		2		2		2		5		4		1		4	
State (Cost)	4		5		3		1		2		3		2		2		1		2		1	
Local (Cost & subway restriction)	4		5		3		1		2		3		2		1		1		2		1	

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Table 2-10 Goal 7: Provide a Safe and Secure Alternative Transportation System

Goal 7: Provide a Safe and Secure Alternative Transportation System	*Secure entire alignment, stations, track and other facilities *Develop direct and indirect safety measures that exceed safety precautions typical of the Metro system *Develop a system that balances the need for accessibility and mobility with security *Develop a system that uses accessibility and mobility as measures for safety and security																	
Alternative	**1a**		**1b**		**2**		**3a**		**3b**		**4a**		**4b**		**5**		**6**		**7**		**8**	
Total Length of Alignment (Miles)	1.83		1.83		1.88		2.03		2.03		1.62		1.62		1.62		1.65		1.69		1.67	
Total Area within One Quarter Mile of Alignment	1.04		1.04		1.11		1.02		1.02		0.98		0.98		0.98		0.98		1		0.98	
7.a Safety- determined to be able to provide measures typical of requirements per ADA, per typical CPUC requirements, fire life safety guidelines, and per Metro Design Guidelines for access to and from stations (amount grade separated) (Score 1 to 5)	22%	1	13%	1	39%	2	34%	2	21%	1	24%	1	34%	2	91%	5	103%	5	32%	2	103%	5
Total underground - new tunnel, existing 2nd Street tunnel and aerial	44%		33%		36%		46%		38%		49%		60%		94%		*103% (Includes grade separating some of the Eastside Extension)		56%		103%	
7.b Number of emergency facilities located within 1/4 mile of the alignment, i.e., fire stations, police stations, hospitals.	4		4		4		4		4		4		4		4		4		4		4	
7.c Number of public events with 1/4 mile alignment	14		14		14		14		14		14		14		14		14		14		14	

*** NOTE: Score 1-5 is use for some criteria where 1 = WORST and 5 = BEST**

Figure 2-18 No Build Alternative

2.4.2 Transportation System Management

The TSM Alternative (Figure 2-19) imitates the proposed light rail link between 7th St./Metro Center Station and Union Station using two shuttle bus routes. Buses would run frequently, perhaps just a few minutes apart during peak hours, and the routes would be designed to move passengers between the two stations as quickly as possible. Intermediate stops would provide additional transit coverage of Bunker Hill, Little Tokyo, and the Civic Center. A variety of bus sizes could be used to tailor capacity to demand, ranging from 30-ft. DASH style buses to 60-ft. articulated buses.

In addition to frequent headways, the TSM Alternative could employ a Transit Priority System (TPS) similar to the ones currently used on Metro Rapid Lines within the City. Due to the constant pick up and discharge of passengers, buses usually fall out of synchronization with signal progression, lengthening the time spent at red lights. Installation of a TPS system or re-coordination of the signals along the TSM would counter this effect.

In a TPS, transponders mounted to the undersides of the buses would trigger detector loops embedded in the pavement in advance of each signalized intersection along the route. Upon detecting the bus, the City's central Automated Traffic Surveillance and Control (ATSAC) system would trigger the signal controller to grant additional time on the green light to the oncoming bus (usually 10-15% of the total cycle time), up to once per cycle. The existing Metro Rapid Lines have shown that the TPS keeps buses moving quickly, reduces trip times, and increases passenger throughput. Use of existing or creation of new bus-only lanes where right-of-way is available could also improve travel speeds.

There are two proposed alignments for the TSM Alternative, described below.

Grand/Temple/Los Angeles Alignment: This alignment is similar to the existing LADOT DASH Line B service. Buses travel from Chinatown to 7th St./Metro Center Station using Los Angeles St., Temple St., and Grand Ave. The route could be easily modified to serve the Little Tokyo/Arts District Station by using Alameda St. instead of Los Angeles St. between Temple St. and Union Station. Service currently operates every 8 minutes, but the frequency could be increased to make the line more convenient to Regional Connector passengers. This alignment provides good coverage of the Bunker Hill and Civic Center areas, but bypasses most of Little Tokyo.

Figueroa/Flower/2nd/3rd/Alameda Alignment: This alignment would take advantage of the existing northbound bus-only lane on Figueroa St. and the light usage of 2nd and 3rd Streets by other bus services. TPS would be easier to implement here because buses would only travel in one direction along most streets, eliminating signal priority conflicts between two competing buses. The alignment passes by both the Little Tokyo/Arts District Station and Union Station, so easy connections would be available to both East Los Angeles- and Pasadena-bound passengers. This route provides good coverage of Little Tokyo and the southern edge of the Civic Center, but passengers would be required to undertake a two-block uphill climb to reach Bunker Hill.

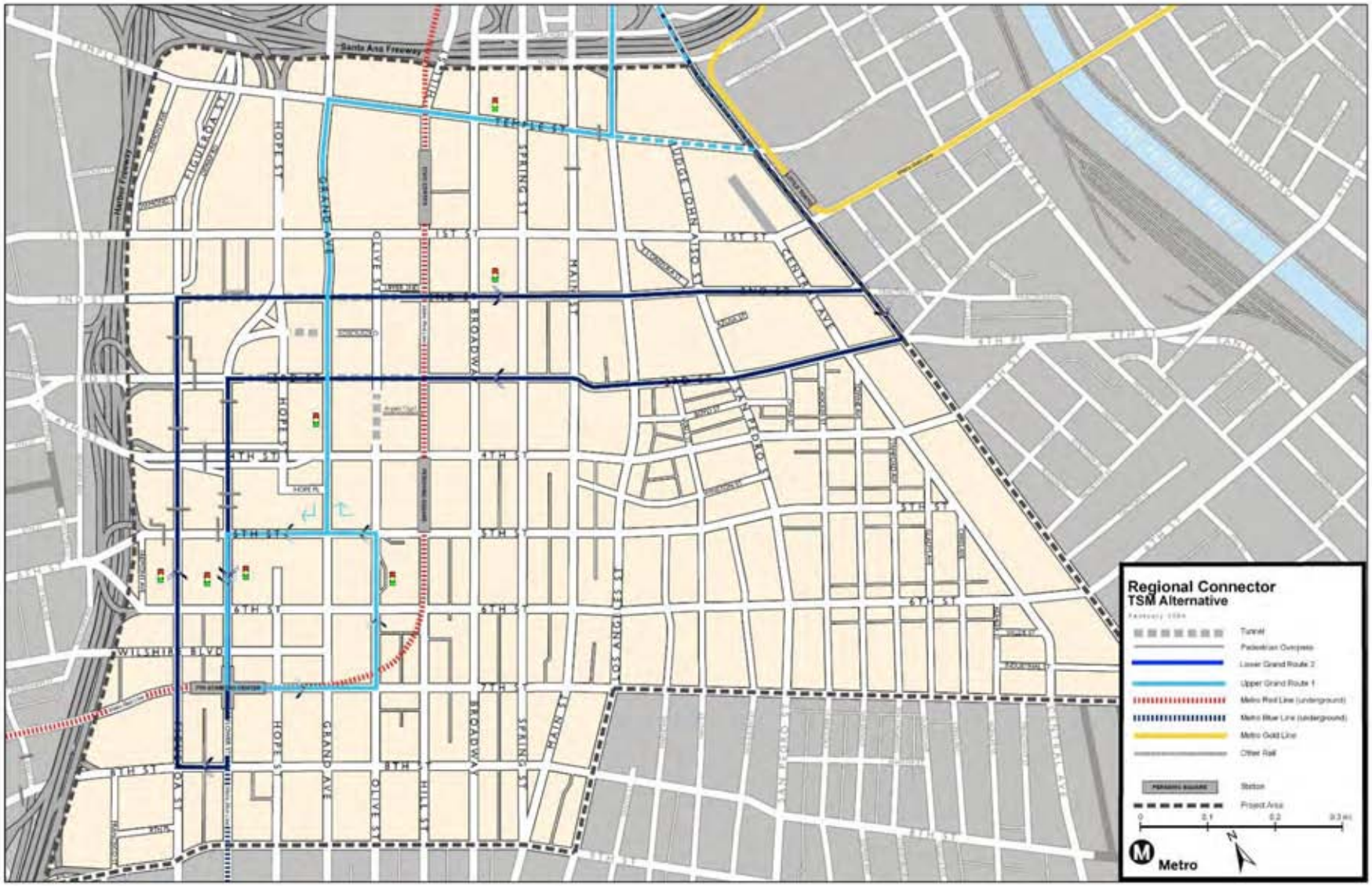


Figure 2-19 TSM Alternative