
3.0 TRANSPORTATION ISSUES AND ANALYSIS

3.1 Transit Analysis

The following sections address the anticipated transit service levels under each of the alternatives considered in the detailed screening as well as anticipated levels of ridership and other key transit performance indicators.

3.1.1 Service Levels

Transit service levels for each alternative are presented below in bold.

No-Build Alternative

The No-Build Alternative includes all projects in the PSA that are identified for construction in the financially constrained Long Range Transportation Plan by the year 2030 but does not include the Eastside Transit Corridor Phase 2 project. The No-Build Alternative reflects approved Metro actions and the transit network representing the “constrained plan” from the Metro Long Range Transportation Plan adopted February 2001. The assumed countywide urban rail network includes the following lines:

- Red Line, North Hollywood to Union Station
- Purple Line, Wilshire/Western to Union Station
- Gold Line, Pasadena to East Los Angeles
- Blue Line, Long Beach to 7th/Flower
- Exposition Line Phase 1, Culver City to 7th/Flower
- Crenshaw Line, Expo/Crenshaw to Aviation
- Green Line, Norwalk to El Segundo
- Green Line Extension to LAX

Future Baseline/TSM Alternative

The Future Baseline/TSM Alternative for the Eastside Transit Corridor Phase 2 project was the basis for comparison for the system plan alternatives. The Future Baseline/TSM Alternative proposes to improve transit service in the PSA without major capital costs. Service would be improved by increasing service frequencies on existing bus lines, upgrading existing lines with limited/rapid service, and introducing a new bus line. Service improvements would focus on

lines that form the “grid of service” operating throughout the day on the north-south and west-east arterials of the PSA. These service improvements are summarized below.

Additional detail on the service improvements that are part of the Baseline/TSM Alternative are provided in Section 2.4.2.

Service Frequency Increases

As part of the Future Baseline/TSM improvements, service frequencies would generally be increased on all of the lines in the PSA, unless:

- the line is an express with peak-hour service only;
- the line already operates at high frequencies;
- frequency increases are proposed for another line operating in the same corridor; or
- the line has a subordinate role in the overall “grid of service” operating on major arterials.

Limited/Rapid Service Upgrades and New Line

The Future Baseline/TSM Alternative improvements include adding limited or rapid service, in addition to existing service, on the PSA’s major arterials:

East-West “Feeder” Services

- Rapid service on Beverly Blvd.
- Limited service on Montebello Blvd. and Peck, Workman Mill, and Santa Fe Springs roads.
- New express line on SR-60 Freeway
- Additional service to M10 Whittier Blvd. bus
- Additional service to M50 Washington Blvd. bus

North-South “Feeder” Services

- Upgrade limited service on Atlantic Blvd. and Garfield Ave. to Rapid service.
- Upgrade M30 Garfield Ave. bus to Rapid service.
- Upgrade M20 Montebello Blvd. bus to Limited Stop service with higher service levels.
- Add service to Metro 265 and Metro 266 local buses along Paramount Blvd. and Rosemead Blvd.
- Add service to Foothill Transit 274 along Workman Mill Rd.
- Provide new 577 Limited services operating along Metro Route 270.

Build Alternatives

Five “build” alternatives were tested. The Build Alternatives were compared against the Future Baseline/TSM Baseline. Each of the Build Alternatives include all of the Future Baseline/TSM Alternative improvements with certain exceptions, which are described for each Build Alternative. For example, Alternative 1 would provide service which would be duplicative of the SR-60 Freeway Flyer planned under the TSM/Baseline Alternative. Therefore, the SR-60 Freeway Flyer would not be implemented in conjunction with Alternative1, but other non-duplicative services identified in the TSM/Baseline Alternative would be implemented. In addition, a set of the following common service concepts was assumed for each Build Alternative:

- 5 minute peak/10 minute off peak headways
- Shuttle/Feeder buses at select stations
- Park and Ride at select stations

Alternative 1 – SR-60 LRT

Alternative 1, SR-60 LRT, would extend Metro Gold Line LRT service east along the SR-60 Freeway Corridor to Crossroads Pkwy. This alternative would include all of the Future Baseline/TSM Alternative improvements except the Pomona Freeway Flyer, as it would duplicate service in this corridor.

Alternative 2 – SR-60 Busway

The Alternative 2, SR-60 Busway, would introduce busway service east from the Metro Gold Line terminus at the Atlantic Station along the SR-60 Freeway Corridor to Crossroads Pkwy. This alternative would include all of the Future Baseline/TSM Alternative improvements except the Pomona Freeway Flyer, as it would duplicate service in this corridor.

Alternative 3 – Beverly LRT

Alternative 3, Beverly LRT, would extend Metro Gold Line LRT service east along the Beverly Blvd. Corridor to Mar Vista St. in the City of Whittier. This alternative would include all of the Future Baseline/TSM Alternative improvements except:

- the Pomona Freeway Flyer would terminate at Garfield/Pomona Station, instead of Atlantic Station;
 - the M40 Rapid service would not be provided and the M341/M342/M343 lines would be discontinued, as they would duplicate the LRT service;
 - Line 720 would be extended to Wilcox/Beverly Station to provide connectivity;
 - Line 265 would be extended to Rosemead/Beverly Station to provide connectivity; and
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- Lines M50 and 270 would be slightly rerouted to serve the LRT terminus station at Mar Vista St. to provide connectivity.

Alternative 4 – Whittier LRT

Alternative 4, Whittier LRT, would extend Metro Gold Line LRT service east along the Whittier Blvd. Corridor to Hadley St. in the City of Whittier. This alternative would include all of the Future Baseline/TSM Alternative improvements except:

- the Pomona Freeway Flyer would terminate at Garfield/Pomona Station, instead of Atlantic Station;
- the M40 Rapid service would not be provided, as it would duplicate the LRT service;
- Line 720 would be extended to Garfield/Whittier Station to provide connectivity; and
- Line 270 would be slightly rerouted to serve the LRT terminus station at Hadley St. to provide connectivity.

Alternative 5 – Washington LRT

Alternative 5, Washington LRT, would extend Metro Gold Line LRT service east along the Washington Blvd. corridor to Whittier Blvd. in the City of Whittier. This alternative would include all of the Future Baseline/TSM Alternative improvements except:

- the Pomona Freeway Flyer would terminate at Garfield/Pomona Station, instead of Atlantic Station;
- Line 720 would be extended to Beverly/Garfield Station, to provide connectivity; and
- the M30 Rapid service would not be included, as it would duplicate LRT service.

3.1.2 Operating Assumptions and Plans

This section documents general operating assumptions and plans for each of the Eastside Transit Corridor Phase 2 Build Alternatives. These assumptions include: operating agency, span of service, vehicle capacity/loading standards, vehicle performance, and station dwell times. The operating plans include station-to-station run time estimates and operating requirements for each Build Alternative.

Operating Assumptions

Existing transit services in the Eastside Transit Corridor Phase 2 PSA are operated by Metro, Montebello Bus Lines, Norwalk Transit System, Monterey Park Spirit Bus and Foothill Transit Zone. Metro provides local and express bus service throughout the PSA. The other transit

providers offer local bus service in municipalities where the Eastside Transit Corridor Phase 2 would operate.

Metro is assumed to be the operating agency for the proposed extension that would connect to Phase 1 of the Metro Gold Line Eastside Extension currently under construction.

Hours of Operation

When modeling the transportation impacts of each of the proposed alternatives, it was assumed that trains and buses would operate every five minutes during peak periods and every ten minutes during off-peak periods. Service would operate from 4 am to 1:30 am, consistent with hours of operation on the rest of the Metro Rail system.

The hours of operation for the proposed LRT and busway alternatives will be comparable to the weekday, Saturday and Sunday and holiday schedules for current Gold and Orange Line schedules, respectively. Table 3-1, below, summarizes the assumed span of service.

Table 3-1 Metro Busway & LRT Operating Hours	
Time Period	Hours
AM Peak Period	6:30 - 8:30 a.m.
Midday	8:30 a.m. - 4:00 p.m.
PM Peak Period	4:00 – 7:00 p.m.
Early Evening	7:00 - 8:00 p.m.
Late Evening	8:00 p.m. - 1:30 a.m.

Service Frequency

Service frequency for Busway and LRT alternatives are assumed to be the same, based on FTA planning guidelines for screening transit modes. Table 3-2 below, summarizes the assumed service frequency.

Table 3-2 Metro Busway & LRT Service Frequency		
Day of Week	Frequency	Hours
Weekdays	5 minutes	6:30 - 8:30 a.m., 4:00 - 7:00 p.m.
	10 minutes	8:30 a.m. - 4:00 p.m., 7:00 - 8:00 p.m.
	15 minutes	4:00 - 6:30 a.m., 8:00 p.m. - 1:30 a.m.
Saturday & Sunday	12 minutes	9:00 a.m. - 6:30 p.m.
	15 minutes	7:00 - 9:00 a.m., 6:30 - 7:30 p.m.
	20 minutes	4:00 - 7:00 a.m., 7:30 p.m. - 1:00 a.m.

The assumed service frequencies for busway and LRT operations are based on Metro's 2008 Long Range Transportation Plan criteria.

Vehicle Capacity and Passenger Load Standards

Vehicle capacity and passenger loading standards have been established in order to determine the service frequency and fleet requirements for each of the busway and LRT alternatives. Table 3-3, summarizes the assumed vehicle capacity (seats) and passenger loading standards for all modes. The lower load standard for busway mode reflects the high-speed, freeway operations (SR-60) associated with the busway alternative.

Table 3-3 Vehicle Capacity and Peak Hour Passenger Loading Standards		
Transit Mode	Seats	Load Standard
Busway	55	100% of seats (a)
LRT	76	190% of seats (a)

(a) Metro load factor

The above load standards were used to determine the appropriate peak hour service frequency for the project alternatives. The projected AM or PM peak hour maximum line loads can be divided by the load standard (e.g., $76 * 1.90 = 144$ for LRT) to determine the peak hour throughput required for that route. During off-peak hours, the load standard for all modes will be a maximum of 100 percent (i.e., no standees).

The vehicle type for the busway is assumed to be similar to the Metro Busway Orange Line vehicles, with 60 foot long articulated buses.

Metro's current load factor standard for LRT = 190% of seated load (144 passengers per light rail vehicle [LRV]) applied to the peak hour, peak direction maximum load point. However, Metro is expected to reduce its load factor standard due to overcrowding and increased incidence of wheelchairs, bicycles and strollers. A standard of 190% of seated load will be applied for the Eastside Transit Corridor Phase 2 project.

The train expected in the design year is based on projected ridership. Two-car trains will be operated in early AM, AM peak, midday, PM peak and early evening periods and one-car trains will be operated in late evening periods for weekdays and weekends.

Vehicle Performance

Busway vehicles are assumed to have a normal service maximum acceleration rate of about 1.5 miles per hour per second (mphps) from 0 and 30 miles per hour (mph), decreasing to 0.5 mphps from 0-55 mph. Normal service braking is assumed to be a constant 2.0 mphps from 65 mph to 0 mph. Busway vehicles are assumed to have a maximum speed of 65 mph. However, sections of the alignment will have speed restrictions due to horizontal and vertical curves, and station spacing. Station-to-station busway time estimates have been developed based on these criteria and are included below.

LRT vehicles are assumed to have a normal service maximum acceleration rate of about 2.5 miles per hour per second (mphps) from 0 and 30 miles per hour (mph), decreasing to an average acceleration rate of 1.0 mphps from 0 to 65 mph. Normal service braking is assumed to be a constant 2.5 mphps from 65 mph to 0 mph. LRT vehicles are assumed to have a maximum speed of 65 mph. However, sections of the alignment will have speed restrictions due to horizontal and vertical curves, and station spacing. Station-to-station LRT time estimates have been developed based on these criteria and are included below.

Station Dwell Times and End-of-Line Layovers

The average station dwell times (i.e., time to allow passengers to board and alight the transit vehicle) for the busway and LRT alternatives are assumed to be 20 seconds at all of the proposed stations.

Transit operations plans will include time for end-of-line layovers. Layovers will provide sufficient time for drivers to take breaks as required by union agreement as well as provide for schedule recovery (i.e., a late bus or train can "catch up" to its schedule). Operations plans will include layovers at least five minutes at each end-of-line station. Metro currently uses drop-back operators at most terminal stations. The busway operations plan will reflect layover time that includes six minutes required for passengers to transfer from the Metro Gold Line Eastside Extension Phase 1 at the Atlantic/Pomona Station.

Average Intersection Delay

The average intersection delay assumes a comparable level of signal priority for busway and LRT operations for at-grade alignments. Non-signalized intersections, driveways and other crossings will be signal or gate-controlled and no delay will be incurred. Average intersection delay for major collectors and minor arterial intersections are assumed to be approximately ten seconds, while a 30 second delay is assumed at major arterial intersections.

3.1.3 Run Time Estimates

Station-to-station run times for each Build Alternative are provided in Tables 3-4 through 3-8. Figure 3-1 shows the station to station travel times for both the Eastside Transit Corridor Phase 2 as well as the total station to station travel time to Union Station in downtown Los Angeles. The travel time along the Eastside Transit Corridor Phase 2 ranges from 16 to 34 minutes. Travel times to Union Station range from 35 to 44 minutes. The estimated travel time along the Eastside Extension Phase 1 is 19.5 minutes; however with Alternative 2, SR-60 Busway, travel times to Union Station include the estimated six minute average transfer time at the Phase 1 terminus between bus and rail.

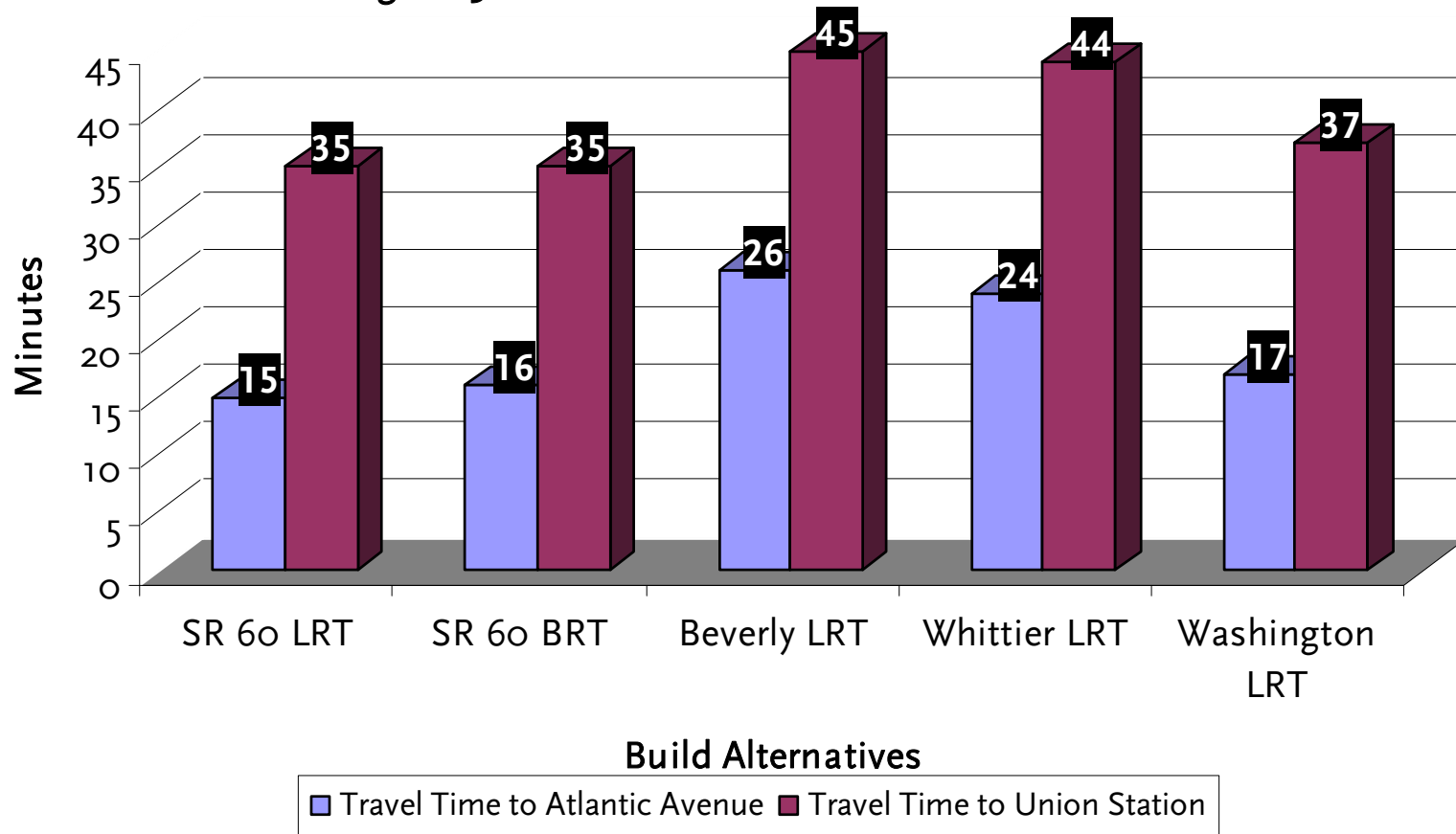
Figure 3-1 Station to Station Travel Times


Table 3-4 SR-60 Busway Alternative Station-to-Station Run Times

Station	Speed (mph)	Distance (miles) Increment	Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)	
East 3rd / Atlantic / Pomona			0.00			00:00:20	00:00:20	
	35	0.55		00:01:07	00:00:20			
At-Grade to Aerial			0.55			00:00:00	00:01:47	
	50	0.93		00:01:31	00:00:00			
Route 60 east of Garfield			1.48			00:00:20	00:03:38	
	65	2.31		00:03:08	00:00:00			
Route 60 at Paramount			3.79			00:00:20	00:07:06	
	65	2.39		00:03:12	00:00:00			
Route 60 at Santa Anita			6.18			00:00:20	00:10:38	
	50	0.73		00:01:30	00:00:00			
Route 60 at Peck			6.91			00:00:20	00:12:28	
	65	1.74		00:02:36	00:00:00			
Route 60 at Crossroads Parkway			8.65			00:00:00	00:15:04	
			8.65	00:13:04	00:00:20	00:01:40	00:15:04	
							Avg. Speed = 34.4 mph	
							Avg. Station Spacing= 1.4 miles	

Table 3-5 SR-60 LRT Alternative Station-to-Station Run Times

Station	Speed (mph)	Distance (miles) Increment	Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)	
East 3rd / Atlantic / Pomona			0.00			00:00:20	00:00:20	
	35	0.55		00:01:04	00:00:20			
At-Grade to Aerial			0.55			00:00:00	00:01:44	
	55	0.93		00:01:23	00:00:00			
Route 60 east of Garfield			1.48			00:00:20	00:03:27	
	45	2.31		00:03:27	00:00:00			
Route 60 at Paramount			3.79			00:00:20	00:07:14	
	45	2.39		00:03:33	00:00:00			
Route 60 at Santa Anita			6.18			00:00:20	00:11:07	
	55	0.74		00:01:21	00:00:00			
Route 60 at Peck			6.92			00:00:20	00:12:48	
	55	1.74		00:02:27	00:00:00			
Route 60 at Crossroads Parkway			8.66			00:00:00	00:15:15	
			8.66	00:13:15	00:00:20	00:01:40	00:15:15	
							Avg. Speed = 34.1 mph	
							Avg. Station Spacing= 1.4 miles	

Table 3-6 Beverly Alternative Station-to-Station Run Times

Station	Speed (mph)	Distance (miles) Increment	Total	Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)
East 3rd / Atlantic / Pomona			0.00			00:00:20	00:00:20
	35	0.55		00:01:04	00:00:20		
At-Grade to Aerial			0.55			00:00:00	00:01:44
	40	0.93		00:01:33	00:00:00		
Garfield south of Route 60			1.48			00:00:20	00:03:37
	40	0.88		00:01:37	00:00:00		
Beverly east of Garfield			2.36			00:00:20	00:05:34
	40	0.15		00:00:24	00:00:00		
Aerial to At-Grade			2.51			00:00:00	00:05:58
	35	0.43		00:00:51	00:00:20		
Beverly at Wilcox			2.94			00:00:20	00:07:29
	35	0.36		00:00:52	00:00:20		
Beverly at Montebello Civic Center			3.30			00:00:20	00:09:01
	35	0.62		00:01:19	00:00:40		
Beverly at Montebello			3.92			00:00:20	00:11:20
	35	0.54		00:01:10	00:01:00		
Beverly at Poplar			4.46			00:00:20	00:13:50
	35	1.01		00:01:59	00:00:30		
Beverly at Rosemead			5.47			00:00:20	00:16:39
	35	0.31		00:00:40	00:00:40		
Street to Railroad			5.78			00:00:00	00:17:59
	45	1.53		00:02:15	00:00:00		
Whittier Greenway at Norwalk			7.31			00:00:20	00:20:34
	45	0.73		00:01:20	00:00:00		
Whittier Greenway at Broadway			8.04			00:00:20	00:22:14
	45	1.31		00:02:07	00:00:00		
Whittier Greenway at Philadelphia			9.35			00:00:20	00:24:41
	45	0.43		00:00:56	00:00:00		
Whittier Greenway at Mar Vista			9.78			00:00:00	00:25:37
			9.78	00:18:07	00:03:50	00:03:40	00:25:37
					Avg. Speed =	22.9 mph	
					Avg. Station Spacing =	0.7 miles	

Table 3-7 Whittier Alternative Station-to-Station Run Times

Station	Speed (mph)	Distance (miles)		Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)	
		Increment	Total					
East 3rd / Atlantic / Pomona			0.00			00:00:20	00:00:20	
	35	0.55		00:01:04	00:00:20			
At-Grade to Aerial			0.55			00:00:00	00:01:44	
	40	0.93		00:01:33	00:00:00			
Garfield south of Route 60			1.48			00:00:20	00:03:37	
	40	1.54		00:02:37	00:00:00			
Garfield east of Whittier			3.02			00:00:20	00:06:34	
	40	0.87		00:01:28	00:00:00			
Aerial to At-Grade			3.89			00:00:00	00:08:02	
	35	0.22		00:00:30	00:00:20			
Whittier at west of Montebello			4.11			00:00:20	00:09:12	
	35	1.71		00:03:11	00:01:50			
Whittier at Rosemead			5.82			00:00:20	00:14:33	
	35	1.10		00:02:01	00:01:30			
At-Grade to Aerial			6.92			00:00:00	00:18:04	
	35	0.18		00:00:26	00:00:00			
Whittier east of Norwalk			7.10			00:00:20	00:18:50	
	35	0.97		00:01:48	00:00:00			
Aerial to At-Grade			8.07			00:00:00	00:20:38	
	35	0.21		00:00:29	00:00:10			
Whittier at Philadelphia			8.28			00:00:20	00:21:37	
	35	0.77		00:01:34	00:00:20			
Whittier east of Mar Vista			9.05			00:00:00	00:23:31	
			9.05	00:16:41	00:04:30	00:02:20	00:23:31	
							Avg. Speed =	23.1 mph
							Avg. Station Spacing=	0.8 miles

Table 3-8 Washington Alternative Station-to-Station Run Times

Station	Speed (mph)	Distance (miles)		Run Time (hr:min:sec)	Delay Time (hr:min:sec)	Dwell Time (hr:min:sec)	Total Time (hr:min:sec)	
		Increment	Total					
East 3rd / Atlantic / Pomona			0.00			00:00:20	00:00:20	
	35	0.55		00:01:04	00:00:20			
At-Grade to Aerial			0.55			00:00:00	00:01:44	
	40	0.93		00:01:33	00:00:00			
Garfield south of Route 60			1.48			00:00:20	00:03:37	
	40	1.42		00:02:26	00:00:00			
Garfield at Whittier			2.90			00:00:20	00:06:23	
	55	1.86		00:02:35	00:00:00			
Washington at So. Greenwood			4.76			00:00:20	00:09:18	
	55	1.54		00:02:14	00:00:00			
Washington at Rosemead			6.30			00:00:20	00:11:52	
	55	1.56		00:02:15	00:00:00			
Washington east of Norwalk			7.86			00:00:20	00:14:27	
	55	1.46		00:02:09	00:00:00			
Washington at Lambert			9.32			00:00:00	00:16:36	
			9.32	00:14:16	00:00:20	00:02:00	00:16:36	
							Avg. Speed =	33.7 mph
							Avg. Station Spacing=	1.3 miles

3.1.4 Ridership Results

An important measure in characterizing the efficiency and utility of a transit alternative is transit ridership. A transit alternative that attracts more new riders will serve to help reduce highway and local street congestion, which will improve the mobility of both the new transit riders as well as the remaining highway trips.

Ridership

Figure 3-2 indicates the ridership increases associated with implementation of the Eastside Transit Corridor Phase 2. Project Boardings would range from a low of 7,500 (SR-60 Busway) to nearly 16,000 (Washington LRT), adding 16 to 32 percent to ridership along the entire Metro Gold Line.

The model results showed the highest Eastside Transit Corridor Phase 2 ridership as well as the highest overall Metro Gold Line transit ridership volumes for Alternative 5. For this alternative, the model estimated total boardings of about 15,900 riders using the Eastside Corridor Phase 2 by 2030. Alternatives 1, 3, and 4 followed closely behind, ranging from about 13,300 to 14,400.

The ridership estimates were also calculated for the individual stations along each alternative alignment. For all of the alternatives, the highest volume of boardings occurred at the terminal station (ranging from 1,200 to 2,000) and at the station nearest Whittier Blvd. and South Garfield Ave. or SR-60 and South Garfield Ave. (1,000 to 2,100). Some stations were projected to have very low ridership volumes (below 500), and these were mostly on Alternative 3 with the Whittier Greenway option.

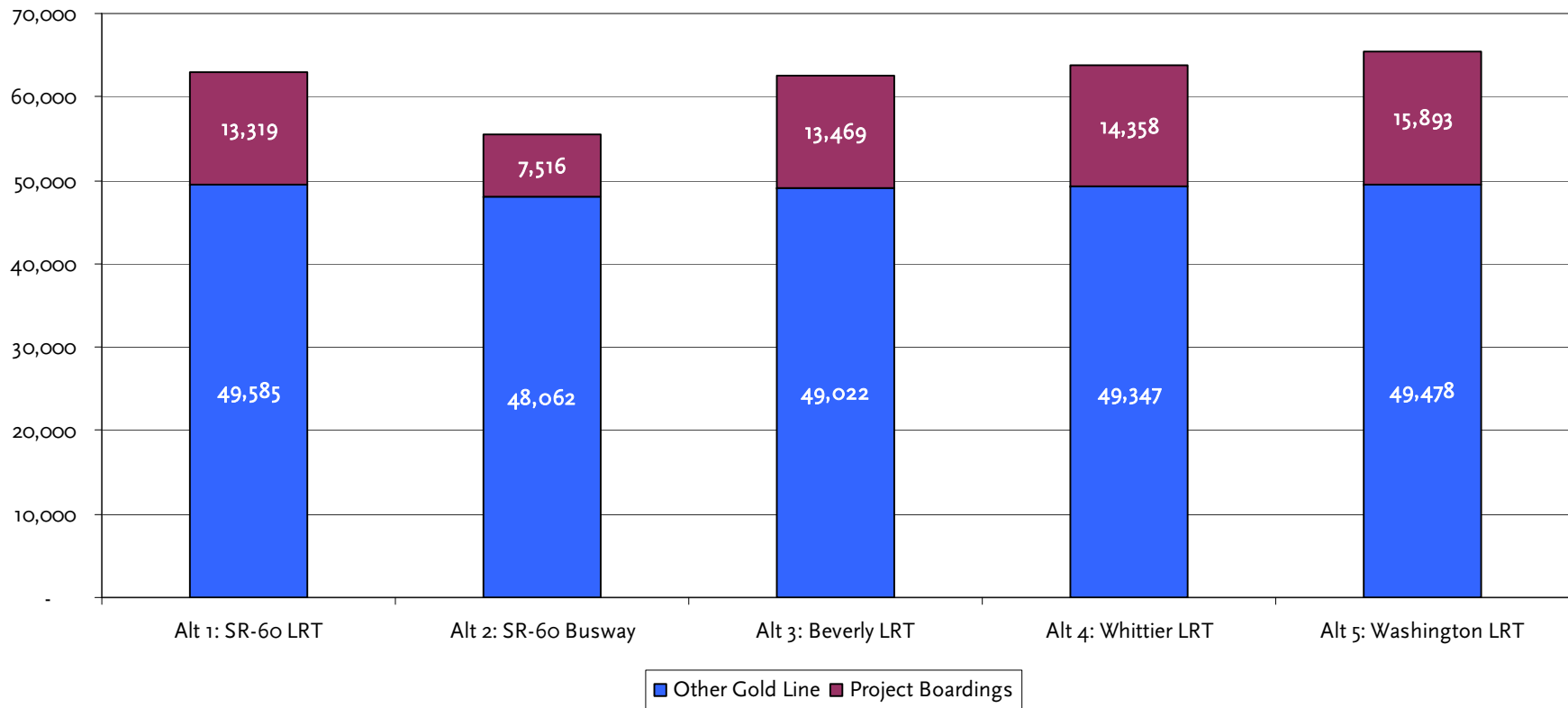
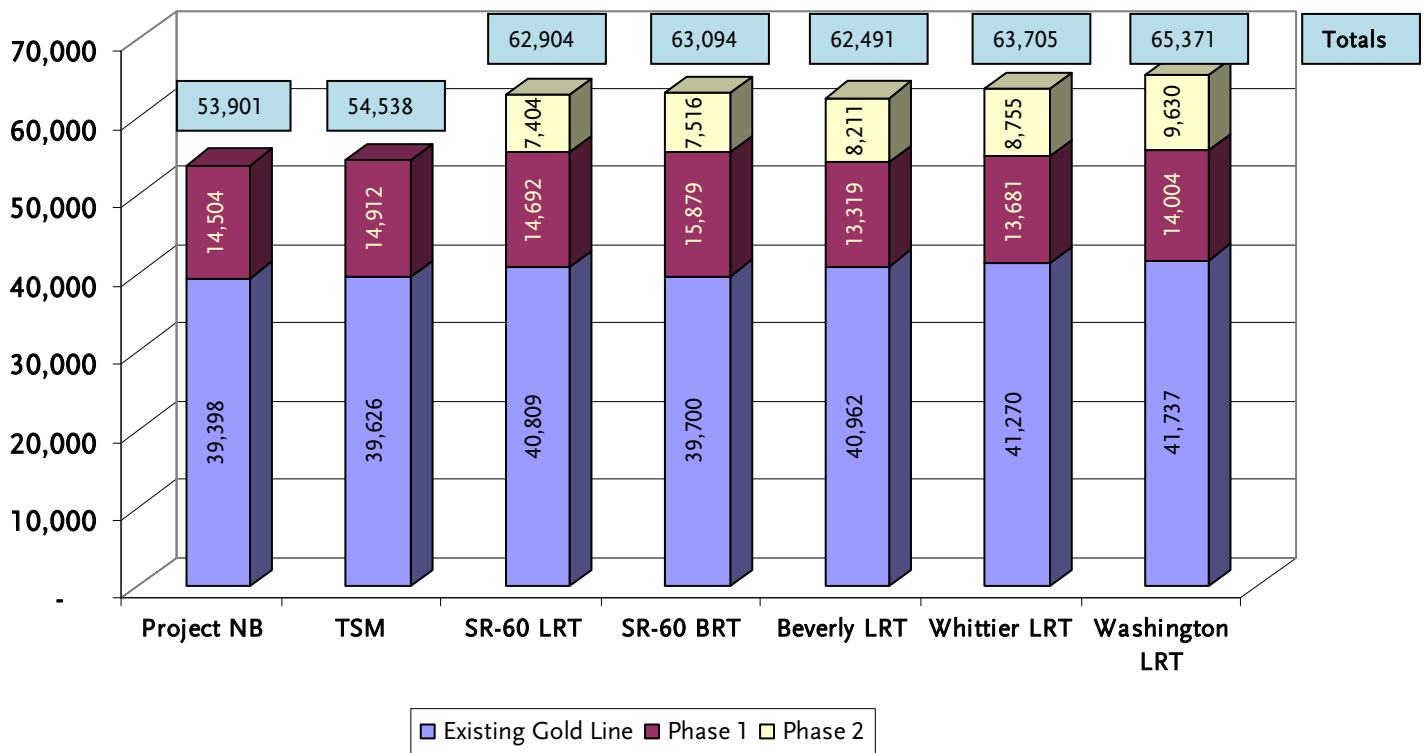
Figure 3-2 Gold Line Project Boardings (Year 2030)


Figure 3-3 presents the build-up of station boardings on the Metro Gold Line in Year 2030 using the Existing Pasadena Gold Line as the base case and then adding the Eastside Extension Phase 1 (presently under construction) and finally the Eastside Transit Corridor Phase 2 stations.

Figure 3-3 2030 Gold Line Station Boardings



Tables 3-9 through 3-15 show the station boardings and times for the existing and proposed transit stations on each of the Eastside Transit Corridor Phase 2 alternatives. Station boardings are the number of riders that board transit at each station.

Table 3-9 2030 Station Boardings and Times – No-Build Alternative

Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings			
	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily	
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	1,088	270	1,358	-	-	1,706	633	2,338	2,794	903	3,696
	Third St./Mednick (East LA Civic Center)	0.4	2.0	212	9	221	0.4	1.5	747	274	1,021	959	283	1,242
	Third St./Ford (Maravilla)	1.4	4.0	331	151	481	0.4	2.0	456	231	686	786	381	1,167
	Third St./Indiana (Indiana)	1.3	3.3	422	144	566	1.4	4.0	1,119	323	1,442	1,541	467	2,007
	First St./Soto (Soto)	0.6	1.6	664	225	888	1.3	3.3	1,317	404	1,720	1,980	628	2,608
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	286	116	402	0.6	1.6	392	157	549	678	273	951
	First St./Utah (Pico/Aliso)	0.8	2.8	76	34	109	0.4	1.4	126	60	186	202	93	295
	First St./Alameda (Little Tokyo)	0.5	3.0	1,193	298	1,491	0.8	2.8	703	346	1,048	1,896	643	2,539
	Union Station	0.6	3.0	7,893	1,804	9,696	0.5	3.0	5,345	1,437	6,782	13,238	3,241	16,478
	Chinatown	1.6	3.0	737	138	875	0.6	3.0	513	164	677	1,250	302	1,552
Lincoln Heights/Cypress Park	0.6	1.0	911	387	1,298	1.6	3.0	454	172	626	1,365	559	1,924	
Existing	Heritage Square/Arroyo	0.9	2.0	733	315	1,048	0.6	1.0	385	91	475	1,117	406	1,523
	Southwest Museum	1.5	4.0	515	147	661	0.9	2.0	138	50	188	652	197	849
	Highland Park	2.1	3.0	1,848	452	2,300	1.5	4.0	519	264	783	2,367	716	3,083
	Mission	1.5	3.0	476	77	553	2.1	3.0	258	87	345	734	164	897
	Filmore	0.6	1.0	587	116	703	1.5	3.0	507	163	670	1,094	279	1,373
	Del Mar	0.5	2.0	1,164	491	1,655	0.6	1.0	996	347	1,342	2,160	837	2,997
	Memorial Park	1.1	2.0	1,088	296	1,384	0.5	2.0	990	282	1,272	2,078	578	2,656
	Lake Ave.	1.0	2.0	954	219	1,173	1.1	2.0	558	168	726	1,512	387	1,898
	Allen Ave.	1.7	3.0	490	131	621	1.0	2.0	178	69	247	668	200	867
	Sierra Madre Villa	-	-	1,849	645	2,494	1.7	3.0	615	195	810	2,464	840	3,304
Total	19.5	48.6	23,514	6,459	29,973	19.5	48.6	18,016	5,912	23,928	41,530	12,371	53,901	

Table 3-10 2030 Station Boardings and Times – Future TSM/Baseline Alternative

Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings			
	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily	
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	1,356	335	1,690	-	-	1,828	705	2,532	3,183	1,039	4,222
	Third St./Mednick (East LA Civic Center)	0.4	2.0	211	13	224	0.4	1.5	707	221	928	918	234	1,152
	Third St./Ford (Maravilla)	1.4	4.0	213	146	359	0.4	2.0	490	248	738	703	394	1,097
	Third St./Indiana (Indiana)	1.3	3.3	431	151	582	1.4	4.0	1,121	342	1,463	1,552	493	2,045
	First St./Soto (Soto)	0.6	1.6	651	218	869	1.3	3.3	1,323	397	1,720	1,974	615	2,588
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	286	121	406	0.6	1.6	394	156	550	680	277	956
	First St./Utah (Pico/Aliso)	0.8	2.8	75	35	110	0.4	1.4	126	61	186	201	96	296
	First St./Alameda (Little Tokyo)	0.5	3.0	1,195	300	1,495	0.8	2.8	714	349	1,063	1,909	649	2,558
	Union Station	0.6	3.0	7,969	1,822	9,791	0.5	3.0	5,399	1,439	6,838	13,368	3,261	16,628
	Chinatown	1.6	3.0	739	139	878	0.6	3.0	517	163	680	1,256	302	1,558
Lincoln Heights/Cypress Park	0.6	1.0	913	389	1,302	1.6	3.0	460	173	633	1,373	562	1,934	
Existing	Heritage Square/Arroyo	0.9	2.0	736	316	1,052	0.6	1.0	385	90	474	1,120	406	1,526
	Southwest Museum	1.5	4.0	515	147	662	0.9	2.0	135	52	187	650	199	848
	Highland Park	2.1	3.0	1,853	454	2,306	1.5	4.0	525	264	789	2,377	718	3,095
	Mission	1.5	3.0	536	77	613	2.1	3.0	273	94	367	809	170	979
	Filmore	0.6	1.0	540	122	662	1.5	3.0	492	164	656	1,032	286	1,318
	Del Mar	0.5	2.0	1,166	492	1,658	0.6	1.0	1,000	346	1,346	2,165	838	3,003
	Memorial Park	1.1	2.0	1,086	293	1,378	0.5	2.0	988	282	1,270	2,074	575	2,648
	Lake Ave.	1.0	2.0	947	219	1,165	1.1	2.0	561	170	730	1,507	388	1,895
	Allen Ave.	1.7	3.0	490	131	621	1.0	2.0	177	73	249	666	204	870
Sierra Madre Villa	-	-	1,850	649	2,499	1.7	3.0	634	194	828	2,484	842	3,326	
Total	19.5	48.6	23,752	6,564	30,316	19.5	48.6	18,244	5,978	24,222	41,996	12,542	54,538	

Table 3-11 2030 Station Boardings and Times – SR-60 LRT Alternative

	Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings		
		Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily
Phase 2	Crossroads Pkwy/SR-60	1.7	2.8	151	110	261	-	-	1,374	578	1,952	1,525	688	2,213
	Peck/SR-60	0.7	1.7	143	89	232	1.7	2.8	722	417	1,138	865	505	1,370
	Santa Anita/SR-60	2.4	3.9	51	40	91	0.7	1.7	471	288	758	522	328	849
	Paramount/SR-60	2.3	3.8	135	104	239	2.4	3.9	725	304	1,028	860	407	1,267
	Garfield/SR-60	1.5	3.5	223	129	352	2.3	3.8	998	358	1,355	1,221	486	1,707
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	1,254	301	1,555	1.5	3.5	1,675	547	2,222	2,929	848	3,777
	Third St./Mednick (East LA Civic Center)	0.4	2.0	174	35	209	0.4	1.5	526	147	673	700	182	882
	Third St./Ford (Maravilla)	1.4	4.0	190	111	300	0.4	2.0	417	157	574	607	268	874
	Third St./Indiana (Indiana)	1.3	3.3	435	155	589	1.4	4.0	1,154	352	1,506	1,589	506	2,095
	First St./Soto (Soto)	0.6	1.6	640	218	858	1.3	3.3	1,420	453	1,873	2,060	671	2,731
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	281	118	399	0.6	1.6	411	166	577	692	284	976
	First St./Utah (Pico/Aliso)	0.8	2.8	74	34	107	0.4	1.4	131	62	193	204	96	300
	First St./Alameda (Little Tokyo)	0.5	3.0	1,116	280	1,396	0.8	2.8	1,160	504	1,664	2,276	783	3,059
Existing Gold Line Stations	Union Station	0.6	3.0	7,651	1,701	9,352	0.5	3.0	7,051	1,973	9,024	14,702	3,674	18,376
	Chinatown	1.6	3.0	736	140	876	0.6	3.0	521	172	693	1,257	311	1,568
	Lincoln Heights/Cypress Park	0.6	1.0	906	384	1,290	1.6	3.0	518	194	711	1,423	578	2,001
	Heritage Square/Arroyo	0.9	2.0	737	317	1,053	0.6	1.0	395	89	484	1,132	405	1,537
	Southwest Museum	1.5	4.0	517	148	665	0.9	2.0	137	53	190	654	201	854
	Highland Park	2.1	3.0	1,844	452	2,295	1.5	4.0	525	267	792	2,369	719	3,087
	Mission	1.5	3.0	516	76	592	2.1	3.0	272	92	364	788	168	956
	Filmore	0.6	1.0	514	118	632	1.5	3.0	482	169	651	996	286	1,282
	Del Mar	0.5	2.0	1,142	473	1,615	0.6	1.0	1,006	352	1,358	2,148	825	2,973
	Memorial Park	1.1	2.0	1,077	282	1,359	0.5	2.0	1,000	292	1,291	2,077	573	2,650
	Lake Ave.	1.0	2.0	939	217	1,156	1.1	2.0	565	172	736	1,504	388	1,892
	Allen Ave.	1.7	3.0	488	130	618	1.0	2.0	179	74	253	667	204	870
	Sierra Madre Villa	-	-	1,473	469	1,941	1.7	3.0	631	195	825	2,103	663	2,766
	Total	28.1	64.3	23,402	6,623	30,025	28.1	64.3	24,460	8,419	32,879	47,862	15,042	62,904

Table 3-12 2030 Station Boardings and Times – SR-60 Busway Alternative

	Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings		
		Dist (mi)	Time (min)	Peak	Off-Peak	Daily	Dist (mi)	Time (min)	Peak	Off-Peak	Daily	Peak	Off-Peak	Daily
Phase 2	Crossroads Pkwy/SR-60	1.7	2.8	137	97	233	-	-	837	313	1,149	973	409	1,382
	Peck/SR-60	0.7	1.7	126	80	205	1.7	2.8	453	223	675	578	302	880
	Santa Anita/SR-60	2.4	3.9	47	40	87	0.7	1.7	281	157	438	328	197	525
	Paramount/SR-60	2.3	3.8	113	69	182	2.4	3.9	448	168	615	561	237	797
	Garfield/SR-60	1.5	3.5	170	78	248	2.3	3.8	508	181	689	678	259	937
	Pomona/Atlantic (Atlantic)	-	-	264	106	370	1.5	3.5	1,969	658	2,627	2,233	763	2,996
	Total Phase 2	8.6	15.7	856	468	1,324	8.6	15.7	4,494	1,698	6,192	5,350	2,166	7,516
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	1,260	289	1,549	-	-	3,040	943	3,983	4,300	1,231	5,531
	Third St./Mednick (East LA Civic Center)	0.4	2.0	156	10	165	0.4	1.5	540	115	655	695	125	820
	Third St./Ford (Maravilla)	1.4	4.0	188	121	309	0.4	2.0	427	178	605	615	299	914
	Third St./Indiana (Indiana)	1.3	3.3	425	143	568	1.4	4.0	1,135	323	1,457	1,560	466	2,025
	First St./Soto (Soto)	0.6	1.6	637	217	853	1.3	3.3	1,328	407	1,734	1,964	623	2,587
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	282	120	402	0.6	1.6	401	156	557	683	276	959
	First St./Utah (Pico/Aliso)	0.8	2.8	75	34	108	0.4	1.4	127	63	189	201	96	297
	First St./Alameda (Little Tokyo)	0.5	3.0	1,148	291	1,438	0.8	2.8	927	382	1,309	2,075	673	2,747
	Union Station	0.6	3.0	7,715	1,750	9,465	0.5	3.0	6,197	1,546	7,743	13,912	3,296	17,207
	Chinatown	1.6	3.0	737	139	875	0.6	3.0	519	160	678	1,255	298	1,553
Lincoln Heights/Cypress Park	0.6	1.0	905	385	1,290	1.6	3.0	487	179	666	1,391	564	1,955	
Existing Gold Line	Heritage Square/Arroyo	0.9	2.0	736	315	1,051	0.6	1.0	392	92	484	1,128	407	1,535
	Southwest Museum	1.5	4.0	515	147	662	0.9	2.0	137	54	190	652	201	852
	Highland Park	2.1	3.0	1,836	447	2,283	1.5	4.0	522	260	781	2,358	706	3,064
	Mission	1.5	3.0	518	66	584	2.1	3.0	270	86	355	788	151	939
	Filmore	0.6	1.0	479	119	598	1.5	3.0	467	161	628	946	280	1,225
	Del Mar	0.5	2.0	1,155	485	1,640	0.6	1.0	995	342	1,336	2,150	827	2,976
	Memorial Park	1.1	2.0	1,080	287	1,367	0.5	2.0	980	283	1,263	2,060	570	2,630
	Lake Ave.	1.0	2.0	942	217	1,158	1.1	2.0	558	169	727	1,499	386	1,885
	Allen Ave.	1.7	3.0	489	131	619	1.0	2.0	181	69	250	670	200	869
	Sierra Madre Villa	-	-	1,631	575	2,206	1.7	3.0	615	192	807	2,246	766	3,012
	Total Phase 1 and Existing Gold Line	19.5	48.6	22,904	6,281	29,185	19.5	48.6	20,239	6,154	26,393	43,143	12,435	55,578

Table 3-13 2030 Station Boardings and Times – Beverly LRT Alternative

	Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings		
		Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily
Phase 2	Whittier Greenway/Mar Vista	0.4	0.9	210	106	316	-	-	666	281	947	875	387	1,262
	Whittier Greenway/Philadelphia	1.3	2.5	253	97	350	0.4	0.9	493	169	662	746	266	1,011
	Whittier Greenway/Broadway	0.7	1.7	68	41	109	1.3	2.5	102	34	136	170	75	244
	Whittier Greenway/Norwalk	1.8	3.9	108	58	166	0.7	1.7	204	76	280	312	134	445
	Beverly/Rosemead	1.0	2.8	234	110	344	1.8	3.9	510	298	808	744	407	1,151
	Beverly/Poplar	0.5	2.5	113	41	154	1.0	2.8	117	48	165	230	89	319
	Beverly/Montebello	0.6	2.3	155	109	264	0.5	2.5	294	251	545	449	360	809
	Beverly/Montebello Civic Center	0.4	1.5	205	79	284	0.6	2.3	197	78	275	402	157	558
	Beverly/Wilcox	0.6	1.9	248	103	351	0.4	1.5	393	175	568	641	278	919
	Beverly/East of Garfield	0.9	2.0	85	42	127	0.6	1.9	226	76	301	311	117	428
Garfield/SR-60	1.5	3.6	182	63	245	0.9	2.0	538	285	822	719	348	1,067	
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	850	261	1,111	1.5	3.6	1,287	444	1,731	2,137	705	2,842
	Third St./Mednick (East LA Civic Center)	0.4	2.0	184	44	227	0.4	1.5	518	157	674	701	200	901
	Third St./Ford (Maravilla)	1.4	4.0	159	100	259	0.4	2.0	339	159	497	498	259	756
	Third St./Indiana (Indiana)	1.3	3.3	455	160	615	1.4	4.0	1,130	335	1,465	1,585	495	2,079
	First St./Soto (Soto)	0.6	1.6	666	223	888	1.3	3.3	1,376	426	1,802	2,042	649	2,690
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	290	123	412	0.6	1.6	406	165	571	696	287	983
	First St./Utah (Pico/Aliso)	0.8	2.8	80	33	113	0.4	1.4	129	63	192	209	96	305
	First St./Alameda (Little Tokyo)	0.5	3.0	1,157	299	1,456	0.8	2.8	878	431	1,309	2,035	730	2,765
Existing Gold Line Stations	Union Station	0.6	3.0	8,135	1,859	9,994	0.5	3.0	6,262	1,697	7,959	14,397	3,556	17,953
	Chinatown	1.6	3.0	743	140	883	0.6	3.0	525	169	694	1,268	309	1,577
	Lincoln Heights/Cypress Park	0.6	1.0	913	392	1,305	1.6	3.0	509	186	694	1,422	578	1,999
	Heritage Square/Arroyo	0.9	2.0	740	320	1,059	0.6	1.0	397	94	491	1,137	413	1,550
	Southwest Museum	1.5	4.0	519	151	669	0.9	2.0	136	55	190	654	205	859
	Highland Park	2.1	3.0	1,851	456	2,307	1.5	4.0	525	265	790	2,376	721	3,097
	Mission	1.5	3.0	535	77	612	2.1	3.0	271	90	361	806	167	972
	Filmore	0.6	1.0	537	120	657	1.5	3.0	504	170	674	1,041	289	1,330

Table 3-13 2030 Station Boardings and Times – Beverly LRT Alternative

Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings		
	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily
Del Mar	0.5	2.0	1,159	486	1,645	0.6	1.0	1,011	350	1,361	2,170	836	3,006
Memorial Park	1.1	2.0	1,083	284	1,367	0.5	2.0	1,008	293	1,301	2,091	577	2,668
Lake Ave.	1.0	2.0	945	217	1,162	1.1	2.0	563	174	737	1,508	391	1,899
Allen Ave.	1.7	3.0	490	130	620	1.0	2.0	185	71	256	675	201	876
Sierra Madre Villa	-	-	1,757	592	2,349	1.7	3.0	636	195	831	2,392	787	3,179
Total	29.2	74.2	25,102	7,311	32,413	29.2	74.2	22,328	7,750	30,078	47,430	15,061	62,491

Table 3-14 2030 Station Boardings and Times – Whittier LRT Alternative

	Station Name	Eastbound (Read Up)			Eastbound Boardings			Westbound (Read Down)			Westbound Boardings			Total Boardings		
		Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily		
Phase 2	Whittier/E. of Mar Vista	0.8	2.2	168	96	264	-	-	688	285	973	856	381	1,236		
	Whittier/Philadelphia	1.2	2.8	302	119	420	0.8	2.2	608	260	868	910	378	1,288		
	Whittier/E. of Norwalk	1.3	4.3	220	102	322	1.2	2.8	358	118	476	578	220	798		
	Whittier/Rosemead	1.7	5.4	290	115	404	1.3	4.3	560	305	864	849	419	1,268		
	Whittier/W. of Montebello	1.1	2.6	397	178	575	1.7	5.4	422	198	620	819	376	1,195		
	Garfield/E. of Whittier	1.5	3.0	530	239	769	1.1	2.6	679	292	970	1,208	531	1,739		
	Garfield/SR-60	1.5	3.6	215	89	304	1.5	3.0	603	327	930	818	415	1,233		
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	896	271	1,167	1.5	3.6	1,322	488	1,810	2,218	759	2,976		
	Third St./Mednick (East LA Civic Center)	0.4	2.0	199	52	251	0.4	1.5	538	163	701	737	215	951		
	Third St./Ford (Maravilla)	1.4	4.0	195	108	303	0.4	2.0	402	157	559	597	265	862		
	Third St./Indiana (Indiana)	1.3	3.3	463	168	631	1.4	4.0	1,121	338	1,459	1,583	506	2,089		
	First St./Soto (Soto)	0.6	1.6	665	232	897	1.3	3.3	1,365	425	1,790	2,029	657	2,686		
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	294	122	416	0.6	1.6	411	165	576	704	287	991		
	First St./Utah (Pico/Aliso)	0.8	2.8	78	35	113	0.4	1.4	130	63	193	208	98	305		
First St./Alameda (Little Tokyo)	0.5	3.0	1,187	299	1,486	0.8	2.8	901	435	1,336	2,088	733	2,821			
Existing Gold Line Stations	Union Station	0.6	3.0	8,244	1,896	10,140	0.5	3.0	6,306	1,695	8,001	14,550	3,591	18,141		
	Chinatown	1.6	3.0	746	142	887	0.6	3.0	526	168	693	1,271	309	1,580		
	Lincoln Heights/Cypress Park	0.6	1.0	919	395	1,313	1.6	3.0	512	186	698	1,430	581	2,011		
	Heritage Square/Arroyo	0.9	2.0	744	321	1,065	0.6	1.0	399	93	492	1,143	414	1,557		
	Southwest Museum	1.5	4.0	522	151	672	0.9	2.0	138	55	192	659	205	864		
	Highland Park	2.1	3.0	1,866	459	2,325	1.5	4.0	524	268	791	2,390	726	3,116		
	Mission	1.5	3.0	537	77	614	2.1	3.0	274	87	361	811	163	974		
	Filmore	0.6	1.0	539	120	659	1.5	3.0	497	171	668	1,035	291	1,326		
	Del Mar	0.5	2.0	1,163	489	1,652	0.6	1.0	1,017	352	1,369	2,179	841	3,020		
	Memorial Park	1.1	2.0	1,090	288	1,378	0.5	2.0	1,011	292	1,303	2,101	580	2,681		
	Lake Ave.	1.0	2.0	950	219	1,169	1.1	2.0	570	171	741	1,520	390	1,910		
	Allen Ave.	1.7	3.0	492	131	623	1.0	2.0	181	74	255	673	204	877		
	Sierra Madre Villa	-	-	1,784	600	2,384	1.7	3.0	638	195	832	2,421	795	3,216		
	Total	28.6	72.5	25,687	7,506	33,193	28.6	72.5	22,693	7,819	30,512	48,380	15,325	63,705		

Table 3-15 2030 Station Boardings and Times – Washington LRT Alternative

	Station Name	Eastbound (Read Up)		Eastbound Boardings			Westbound (Read Down)		Westbound Boardings			Total Boardings		
		Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Dist (mi)	Time (min)	Peak	Off- Peak	Daily	Peak	Off- Peak	Daily
Phase 2	Washington/Lambert	1.5	2.5	414	183	597	-	-	1,017	420	1,437	1,431	603	2,034
	Washington/E. of Norwalk	1.6	2.6	321	163	483	1.5	2.5	739	390	1,129	1,060	553	1,612
	Washington/Rosemead	1.5	2.6	284	98	381	1.6	2.6	466	213	678	749	310	1,059
	Washington/So. Greenwood	1.9	2.9	424	214	638	1.5	2.6	408	227	635	832	441	1,273
	Garfield/Whittier	1.4	2.8	703	293	996	1.9	2.9	830	330	1,160	1,533	623	2,156
	Garfield/SR-60	1.5	3.6	265	133	398	1.4	2.8	729	371	1,100	994	504	1,497
Phase 1	Pomona/Atlantic (Atlantic)	0.4	1.5	943	284	1,227	1.5	3.6	1,377	530	1,907	2,320	814	3,134
	Third St./Mednick (East LA Civic Center)	0.4	2.0	205	61	266	0.4	1.5	540	177	716	745	238	982
	Third St./Ford (Maravilla)	1.4	4.0	200	111	311	0.4	2.0	399	151	550	599	262	861
	Third St./Indiana (Indiana)	1.3	3.3	474	175	648	1.4	4.0	1,126	341	1,466	1,599	515	2,114
	First St./Soto (Soto)	0.6	1.6	678	238	916	1.3	3.3	1,374	436	1,810	2,052	674	2,726
	First St./Boyle (Mariachi/Plaza)	0.4	1.4	295	126	421	0.6	1.6	414	166	579	709	291	1,000
	First St./Utah (Pico/Aliso)	0.8	2.8	78	36	114	0.4	1.4	129	63	192	207	99	305
First St./Alameda (Little Tokyo)	0.5	3.0	1,190	299	1,488	0.8	2.8	936	460	1,396	2,126	759	2,884	
Existing Gold Line Stations	Union Station	0.6	3.0	8,345	1,924	10,268	0.5	3.0	6,435	1,792	8,227	14,780	3,716	18,495
	Chinatown	1.6	3.0	749	139	888	0.6	3.0	529	171	700	1,278	310	1,587
	Lincoln Heights/Cypress Park	0.6	1.0	920	398	1,318	1.6	3.0	526	195	720	1,446	592	2,038
	Heritage Square/Arroyo	0.9	2.0	748	324	1,071	0.6	1.0	404	90	494	1,151	414	1,565
	Southwest Museum	1.5	4.0	524	151	675	0.9	2.0	136	56	192	660	207	867
	Highland Park	2.1	3.0	1,876	463	2,339	1.5	4.0	525	270	795	2,401	733	3,134
	Mission	1.5	3.0	540	79	619	2.1	3.0	276	90	366	816	169	985
	Filmore	0.6	1.0	524	122	645	1.5	3.0	490	170	660	1,013	292	1,305
	Del Mar	0.5	2.0	1,169	492	1,661	0.6	1.0	1,011	354	1,365	2,180	846	3,026
	Memorial Park	1.1	2.0	1,095	291	1,386	0.5	2.0	1,015	295	1,310	2,110	586	2,696
	Lake Ave.	1.0	2.0	955	220	1,174	1.1	2.0	565	176	741	1,520	395	1,915
	Allen Ave.	1.7	3.0	494	131	625	1.0	2.0	184	74	258	678	205	883
	Sierra Madre Villa	-	-	1,798	605	2,403	1.7	3.0	643	200	843	2,441	805	3,246
	Total	28.9	65.6	26,205	7,745	33,950	28.9	65.6	23,218	8,203	31,421	49,423	15,948	65,371

Project Riders and User Benefits

Project riders are the number of riders that board on the each of the build alternatives. Project riders indicate those riders that get on or off the proposed Eastside Transit Corridor Phase 2. It includes riders that board at one of the proposed new stations or travel to one of them from other parts of the Metro Gold Line. Of the build alternatives, the Washington Blvd. LRT Alternative is projected to have the most project riders at approximately 15,900 project boardings. The SR-60 Busway would have the least project riders, at about 7,500 project boardings.

User benefits are defined as the weighted travel time savings for all users of each of the project alternatives. As shown in Table 3-16, the Washington LRT Alternative is forecast to have the greatest user benefits at 6,403 hours, or 24.2 minutes per project boardings. The Beverly LRT Alternative is expected to have the next highest user benefits at 5,316 hours, or 23.7 minutes per project boarding. The SR-60 Busway is forecast to have the least user benefits at 1,745 hours, or 13.9 minutes per project boarding. Table 3-16 shows the project riders and project user benefits for each alternative.

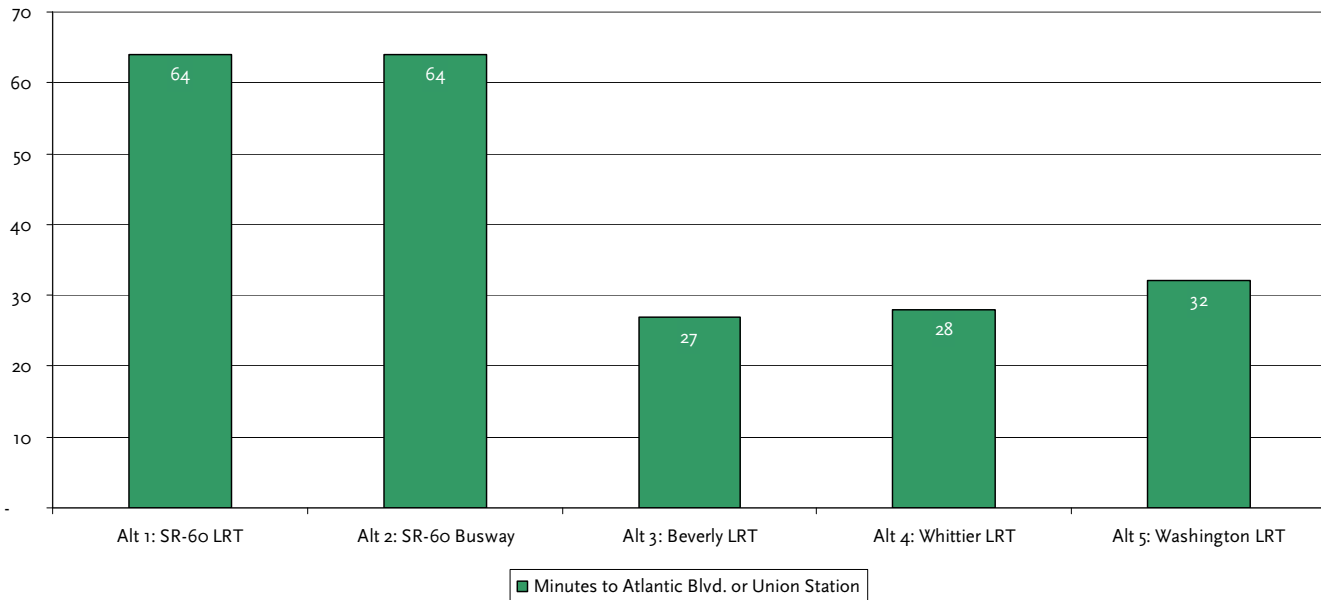
Travel Times

Table 3-17 shows the travel times for each alternative. Travel time savings is measured relative to the No-Build condition. It evaluates the difference in transit travel time from any specific location in the project area. The SR-60 LRT and SR-60 Busway Alternatives have the lowest running times to Atlantic Ave. and Union Station. The Beverly LRT has the highest running times to the same locations.

Implementation of the Eastside Transit Corridor Phase 2 would result in substantial savings in travel time to Atlantic Blvd. and to Union Station. As shown in Figure 3-4, travel time savings would range from about one half hour with most of the alternatives. (The SR-60 alternatives would yield higher savings, but this is largely due to the relative inaccessibility of the Crossroads terminal station to modes other than auto.)

When comparing the change in travel time to Atlantic Ave. and Union Station for the Build alternatives compared to the No-Build and TSM alternatives, the SR-60 LRT and SR-60 Busway Alternatives would see the greatest change at 64 minutes. The Beverly LRT would see a 27 minute change in travel times to Atlantic Ave. and Union Station, the lowest change of the Build Alternatives.

The Peak Period Travel Times compare the change in travel time between Atlantic Ave. and Union Station during peak travel periods for each alternative. Overall, the Build Alternatives would perform better during the peak periods. The Washington LRT Alternative would have the lowest total transit time during the peak period to both Atlantic Ave. and Union Station. The Beverly LRT Alternative would have the highest total transit time to the same destinations during the peak period.

Figure 3-4 Travel Time Savings


Congestion Relief

Congestion relief is the reduction in highway travel demand in the PSA expressed in vehicle miles traveled (VMT). It includes both auto and truck travel. As more people switch to transit, fewer vehicles are observed on the highway, thus reducing the overall regional VMT. Of the Build alternatives, the Beverly LRT Alternative would result in the most average weekday daily VMT while the SR-60 Busway Alternative would result in the least. Table 3-18 shows the average weekday daily VMT for each alternative.

Transit Mode Share

The estimated change in transit mode share shows the percentage of total trips taken by transit for each alternative. In all cases, the proposed Eastside Extension results in an increased transit mode share. Though each alternative shows an overall improvement, there is variation by segment. The Washington LRT Alternative shows the highest transit mode share at 7.5 percent while the SR-60 Busway Alternative shows the lowest at 7.0 percent. Table 3-19 presents the transit mode share for each alternative.

Table 3-16 2030 Project Riders and User Benefits

Run →	Alternative 1 - SR-60 LRT					Alternative 2 - SR-60 Busway									
Daily Gold Line Boardings	62,904					55,578									
Project Riders	13,319					7,516									
	HBW ¹	HBO ²	NHB ³	HBU ⁴	Total	HBW ¹	HBO ²	NHB ³	HBU ⁴	Total					
New Riders	-	-	-	-	4,301	-	-	-	-	2,116					
User Benefits (hours)	2,491	993	146	236	3,867	1,065	496	57	127	1,745					
User Benefits per Project Boarding (min)	-	-	-	-	17.4	-	-	-	-	13.9					
% of benefits that are coverage related	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%					
% of benefits capped prices	-1.0%	-2.3%	-0.5%	-0.6%	-1.3%	-2.2%	-2.1%	-0.6%	-1.2%	-2.1%					
Run →	Alternative 3 – Beverly LRT					Alternative 4 – Whittier LRT					Alternative 5 – Washington LRT				
Daily Gold Line Boardings	62,491					63,705					65,371				
Project Riders	13,469					14,358					15,893				
	HBW ¹	HBO ²	NHB ³	HBU ⁴	Total	HBW ¹	HBO ²	NHB ³	HBU ⁴	Total	HBW ¹	HBO ²	NHB ³	HBU ⁴	Total
New Riders	-	-	-	-	5,010	-	-	-	-	4,992	-	-	-	-	6,407
User Benefits (hours)	2,550	2,201	391	175	5,316	2,593	2,019	360	198	5,169	3,459	2,250	414	280	6,403
User Benefits per Project Boarding (min)	-	-	-	-	23.7	-	-	-	-	21.6	-	-	-	-	24.2
% of benefits that are coverage related	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% of benefits capped prices	-1.0%	-4.7%	-0.6%	-1.7%	-2.5%	-1.2%	-3.6%	-0.5%	-1.4%	-2.1%	-2.2%	-5.0%	-1.2%	-1.1%	-3.1%
1. Home based work trip – A trip made between home and work. 2. Home based other trip – A trip made between home and a non-work, non-university location, e.g., shopping. 3. Non home based trip – A trip not originating at home such as business to business trip. 4. Home based university trip – A trip made between home and a university.															

Table 3-17 2030 Travel Times

Measure	No-Build	Future Baseline/TSM	Alternative				
			SR-60 LRT	SR-60 Busway	Beverly LRT	Whittier LRT	Washington LRT
Travel time (running time) from Eastside Gold Line Extension Terminus (Minutes)							
To Atlantic Blvd.	SR-60 80 Beverly and Whittier 52 Washington 49	SR-60 52 Beverly 39 Whittier and Washington 37	16	15	34	24	17
To Union Station	SR-60 99 Beverly and Whittier 72 Washington 69	SR-60 72 Beverly 56 Whittier and Washington 57	35	35	45	44	37
Change in travel time from end of line compared to No-Build (Minutes)							
To Atlantic Blvd.	-	SR-60 28 Beverly 13 Whittier 15 Washington 12	64	64	27	28	32
To Union Station	-	SR-60 28 Beverly 13 Whittier 15 Washington 12	64	64	27	28	32
Headways (minutes)	-	-	5 peak / 10 off-peak	5 peak / 10 off-peak	5 peak / 10 off-peak	5 peak / 10 off-peak	5 peak / 10 off-peak
Average Speed (mph)	-	-	33.3	33.7	22.6	22.8	33
Average Station Spacing (miles)	-	-	1.4	1.4	0.7	0.8	1.3
Peak period total highway time (from TAZ to TAZ) from end of line (Minutes)							

Table 3-17 2030 Travel Times

Measure	No-Build	Future Baseline/TSM	Alternative				
			SR-60 LRT	SR-60 Busway	Beverly LRT	Whittier LRT	Washington LRT
To Atlantic Blvd.	SR-60 35 Beverly, Whittier, and Washington 27	SR-60 35 Beverly, Whittier, and Washington 27	35	35	27	27	27
To Union Station	SR-60 52 Beverly and Whittier 46 Washington 44	SR-60 52 Beverly and Whittier 46 Washington 44	52	52	46	46	44
Peak period total transit time (from TAZ to TAZ) from end of line (Minutes)							
To Atlantic Blvd.	SR-60 121 Beverly and Whittier 71 Washington 67	SR-60 76 Beverly 55 Whittier 53 Washington 52	40	40	41	40	32
To Union Station	SR-60 147 Beverly and Whittier 97 Washington 93	SR-60 103 Beverly 81 Whittier and Washington 79	59	59	61	59	52

Alternative	VMT
No-Build	4,540,774
Future Baseline/TSM	4,540,112
SR-60 LRT	4,539,616
SR-60 Busway	4,539,513
Beverly LRT	4,540,351
Beverly LRT	4,540,500
Whittier LRT	4,539,636
Washington LRT	4,540,266

Source: LA Metro Travel Demand Model 2008

Alternative	Person Trips	Transit Trips	Transit Share
No-Build	483,895	30,787	6.362%
Future Baseline/TSM	483,895	33,033	6.826%
SR-60 LRT	483,895	34,401	7.109%
SR-60 Busway	483,895	33,895	7.005%
Beverly LRT	483,895	35,505	7.337%
Whittier LRT	483,895	35,473	7.331%
Washington LRT	483,895	36,112	7.463%

Source: LA Metro Travel Demand Model 2008

3.2 Roadway and Highway Analysis

Although all five alternatives would lead to increased transit use and a reduction in automobile activity along the affected corridor, they could result in secondary impacts to local and regional traffic conditions. As such, each of the five alternatives were assessed in terms of potential effects to area wide traffic congestion and localized vehicular circulation.

3.2.1 Traffic Congestion and Circulation

Alternative 1

Since this LRT alternative would operate along the SR-60 right-of-way for the majority of the corridor, it would have minimal impacts to traffic congestion and vehicular circulation, except for the segment between the terminal station for the Eastside Extension at Pomona Blvd. and Atlantic Blvd. and where it transitions into the aerial structure along SR-60 near Sadler Ave. For this short distance (less than half a mile), the LRT would run within the Pomona Blvd.

right-of-way, crossing Atlantic Blvd. at-grade, and resulting in the elimination of a travel lane and some minor restrictions in local access. Overall, this alternative would have a relatively minimal effect on traffic congestion and circulation for the entire length of the alignment.

Alternative 2

Similar to Alternative 1, Alternative 2 would also operate along the SR-60 right-of-way for the majority of the corridor but as a busway. As such, it would also have minimal impacts to traffic congestion and vehicular circulation, except for the segment between the terminal station for the Eastside Extension at Pomona Blvd./Atlantic Blvd. and where it transitions into the aerial structure along SR-60 near Sadler Ave. For this short distance (less than half a mile), the busway would be running within the Pomona Blvd. right-of-way, crossing Atlantic Blvd. at-grade, and resulting in the elimination of a travel lane and some minor restrictions in local access. Overall, this alternative would have a relatively minimal affect on traffic congestion and circulation for the entire length of the alignment.

Alternative 3

This LRT alternative would operate in a series of at-grade, aerial, and exclusive right-of-way (via the Whittier Greenway) segments between the terminal station for the Eastside Extension at Pomona Blvd./Atlantic Blvd. and downtown Whittier. Along Pomona Blvd. to SR-60, Alternative 3 would operate at-grade (same configuration as Alternative 1), resulting in the loss of a travel lane and minor impacts to local circulation. After Sadler Ave., the alternative would travel in an aerial structure along SR-60 and Garfield Ave., returning to an at-grade configuration on Beverly Blvd. This aerial configuration would allow for minimal impacts to capacity along Garfield Ave. and Beverly Blvd., as the majority of left-turns could be maintained and there would only be the loss of travel lanes when there are conflicts with left-turns or on-street parking provision. Between Garfield Ave. and I-605, the alignment would operate within the median of Beverly Blvd., which would generally require the elimination of a travel lane in each direction, the prohibition of left-turns at minor streets, and the loss of some on-street parking. After the aerial structure over the I-605 freeway, the alignment would transition into the Whittier Greenway, which would be an exclusive right-of-way with minimal impacts to local circulation and traffic conditions.

Alternative 4

Between Pomona Blvd./Atlantic Blvd. and Beverly Blvd., this alternative would have the same alignment as Alternative 3. However, it would continue to operate in an aerial structure farther south to Whittier Blvd., where it would transition into an at-grade alignment. For this aerial section of Garfield Ave. between Beverly Blvd. and Whittier Blvd., the alternative would also have minimal impacts to roadway capacity and local circulation. Once the alignment turns on Whittier Blvd., the LRT would transition into an at-grade alignment until Rosemead Blvd. For this segment, the alternative would result in the elimination of travel lanes and/or restrictions in on-street parking provision, plus the prohibition of left-turns at minor streets. The alternative would operate in an aerial structure until after Norwalk Blvd., where it would

transition back to an at-grade alignment to the end of the line near Washington Blvd. With the aerial alignment, there would be low impacts to local circulation and traffic conditions, as there would be a minimal reduction in capacity (although some left-turn movements may be eliminated). For the at-grade section between Norwalk Blvd. and Washington Blvd., a travel lane would need to be eliminated, which would moderately affect local conditions.

Alternative 5

Between Pomona Blvd./Atlantic Blvd. and Whittier Blvd., this alternative would have the same alignment as Alternative 4. However, it would travel south to Washington Blvd., and then continue as an aerial structure to the terminal location near Lambert Ave. Throughout the aerial section, the alternative would have minimal impacts to roadway capacity and local circulation; however, there would be some loss in on-street parking and restriction of left-turns into minor streets. In addition, there would need to be the loss of roadway capacity in the segment between the I-605 freeway and Lambert Rd., as some portions of travel lanes may need to be reduced to accommodate the aerial structure.

As discussed, the implementation of these five alternatives could impact traffic conditions, in terms of reducing the capacity of the streets along the proposed alignments and affecting operations at major cross-streets. To determine these potential impacts, two evaluations were conducted.

For each segment along the proposed alignments, the amount of existing roadway capacity that would be transferred from regular traffic lanes to transit right-of-way was estimated by the proposed transit type (aerial or at-grade dedicated lane). Table 3-20 presents the estimated reduction in roadway capacity for each transit type. The reduction of Capacity can be represented as follows:

- Assume roadway capacity is 750 cars per lane per hours.
- A 25 percent reduction would result in capacity for 187 fewer cars per hours in the lane.
- A 25 to 75 percent reduction would result in capacity for between 187 and 562 fewer cars per hours in the lane.
- Over 75 percent reduction would result in capacity for 563 or more fewer cars in the lane.

These segment-by-segment changes were aggregated for each alignment alternative, and then categorized into ranges, as defined below:

Roadway Capacity Ranges

- “Low” – Averages less than 25 percent of one lane per direction
- “Medium” – Averages between 25 and 75 percent of one lane per direction
- “High” – Averages over 75 percent of one lane per direction

Table 3-20 Estimated Reduction in Roadway Capacity

LRT At-Grade (Dedicated Lane)	1 lane in each direction
LRT At-Grade (Railroad Right-of-Way)	0 lane in each direction
LRT Aerial (Along SR-60)	0 lane in each direction
LRT Aerial (Over Roadway)	½ lane in each direction
Busway (Grade Separated)	0 lane in each direction
Busway (At-Grade)	1 lane in each direction

To determine the potential impact to major cross-street operations, the number of intersections with roadways classified as “major arterials” or “roadways of regional significance” was determined. The total number of potentially affected intersections was aggregated for each alignment alternative, and separated into ranges:

Major Intersection Ranges

- “Low” – Less than five major intersections
- “Medium” – Between five and ten major intersections
- “High” – Over ten major intersections

The results of these evaluations of potential traffic impacts are presented in Table 3-21.

Table 3-21 Preliminary Roadway Capacity and Major Intersection Impact Categories

Alternatives	Reduction in Roadway Capacity	Roadway Capacity Category	Number of Major Intersection Crossings	Major Intersection Category
Alternative 1	< 0.25 lanes	Low	1	Low
Alternative 2	< 0.25 lanes	Low	1	Low
Alternative 3	0.25 - 0.75 lanes	Medium	8	Medium
Alternative 4	< 0.25 lanes	Low	11	High
Alternative 5	< 0.25 lanes	Low	14	High

3.2.2 Access to Stations

All station locations would provide access for pedestrian and bicycle traffic as part of the design of each station area. Access to stations would be provided for automobiles to drop-off passengers; however, parking opportunities at each station will differ depending on adjacent land use, available land parcels, and urban design features surrounding each station. Stations and access issues for each of the build alternatives are discussed below.

Alternative 1 – SR-60 LRT Stations and Access Issues

- East 3rd St./Atlantic Blvd./Pomona Blvd. (East Los Angeles) – will be an at-grade center platform with transfer to Atlantic Blvd. buses. Station access will be provided for roadway drop-offs, pedestrians and bicyclists. A park and ride will be provided at the station.
- SR-60 east of South Garfield Ave. (Monterey Park & Montebello) – would be an aerial center platform along south edge of SR-60 with bridge access to a parcel of land in the southwest quadrant of the South Garfield Ave./Pomona Blvd. intersection. Station access will be provided for roadway drop-offs, pedestrians and bicyclists. A park and ride will be provided at the station. There is an opportunity for using parking deck and/or shared parking and TOD. There would be a transfer to South Garfield Ave. buses.
- SR-60 at Town Center Dr. between Paramount Blvd. and San Gabriel Blvd. (Montebello, Rosemead, and South San Gabriel) – would be an aerial center platform between Town Center Dr. and SR-60 with bridge access to parking lots at the mall and Kaiser facility. There is an opportunity for park and ride with shared parking and TOD. There would be a transfer to Montebello Blvd. and San Gabriel Blvd. buses.
- SR-60 at Santa Anita Ave. (Montebello, South San Gabriel, and Whittier Narrows Recreational Area) – would be an aerial center platform with a bus loading area at plaza level on the undeveloped parcel in the southeast quadrant of Santa Anita Ave. and SR-60. There is the opportunity for park and ride using parking deck and/or shared parking and TOD.
- SR-60 at Peck Rd. (South El Monte, Pico Rivera and Whittier) – would be an aerial center platform with a bus loading area at plaza level on a triangular parcel of land between the freeway, Peck Rd. and the San Gabriel River. There is the opportunity for site redevelopment with park and ride and TOD.
- SR-60 at Crossroads Pkwy. (Whittier, City of Industry, and West La Puente Valley) – would be an aerial center platform with a bus loading level on an undeveloped parcel between Crossroads Pkwy. and the freeway. There is the opportunity for park and ride using parking deck and/or shared parking and TOD.

Alternative 2 – SR-60 Busway Stations and Access Issues

- East 3rd St./Atlantic Blvd./ Pomona Blvd. (East Los Angeles) – will be an at-grade LRT center platform (Existing). The busway loading zone will be located along the south curb of

- Pomona Blvd. east of Beverly Blvd. Buses could circulate around the area planned for a park and ride, and a part of the western portion of the parcel would be developed for bus storage.
- SR-60 east of South Garfield Ave. (Monterey Park & Montebello) – would be an aerial side platform along south edge of SR-60 with bridge access to a parcel in southwest quadrant of South Garfield Ave./Pomona Blvd. intersection. There is the opportunity for park and ride using parking deck and/or shared parking and TOD. There would be a transfer to South Garfield Ave. buses.
 - SR-60 at Town Center Dr. between Paramount Blvd. and San Gabriel Blvd. (Montebello, Rosemead, and South San Gabriel) – would be an aerial side platform between Town Center Dr. and SR-60 with bridge access to parking lots at the mall and Kaiser facility. There is the opportunity for park and ride using parking deck and/or shared parking and TOD. There would be a transfer to Montebello Blvd. and San Gabriel Blvd. buses.
 - SR-60 at Santa Anita Ave. (South El Monte and Whittier Narrows Recreational Area) – would be an aerial side platform with a bus loading area at the plaza level on the undeveloped parcel in the southeast quadrant of Santa Anita Ave. and SR-60. There is the opportunity for park and ride using parking deck and/or shared parking and TOD.
 - SR-60 at Peck Rd. (South El Monte, Pico Rivera and Whittier) – would be an aerial side platform with a bus loading area at the plaza level on a triangle parcel of land between the freeway, Peck Rd. and the San Gabriel River. There is the opportunity for site redevelopment with park and ride and TOD and the opportunity for Peck Rd. buses serving South El Monte, El Monte and Whittier to access the busway facility via a connector ramp.
 - SR-60 at Crossroads Pkwy. (Whittier, City of Industry, and West La Puente Valley) – would be an aerial side platform with a bus loading level on the undeveloped parcel between Crossroads Pkwy. and the freeway. There is the opportunity for park and ride using parking deck and/or shared parking and TOD and the opportunity for bus access from freeway flyer buses serving portions of SR-60 farther east.

Alternative 3 – Beverly LRT Stations and Access Issues

- East 3rd St./Atlantic Blvd./ Pomona Blvd. (East Los Angeles) – At-grade center platform (Existing); transfer to Atlantic Blvd. buses. Station access will be provided for roadway drop-offs, pedestrians and bicyclists and a park and ride is as part of on-going construction.
- South Garfield Ave. south of SR-60 (Monterey Park & Montebello) – would be an aerial center platform over parcels along the west side of South Garfield Ave. with bridge access to a parcel in northeast quadrant of the Garfield Blvd./Pomona Blvd. intersection. There is the opportunity for park and ride using parking deck and/or shared parking and TOD and transfer to South Garfield Ave. buses.
- Beverly Blvd. east of South Garfield Ave. (Montebello) – would be an aerial center platform over the median at Ashiya Park Rd. just east of Beverly Blvd. There is the potential for a small

park and ride on the parcel at northeast quadrant of the Beverly Blvd./Garfield Ave. intersection and transfer to local buses.

- Beverly Blvd. at Wilcox Ave. (Montebello) – would be an at-grade split far side platform station with roadway drop-off; pedestrian and bicycle access from Beverly Blvd. and Wilcox Ave.
- Beverly Blvd. at Montebello Civic Center (Montebello) – would be an at-grade center platform immediately west of the Civic Center driveway (optional location in lieu of Wilcox Ave.). Access would be available for roadway drop-offs, pedestrians and bicyclists.
- Beverly Blvd. at Montebello Blvd. (Montebello) – would be an at-grade split far side platform station with the opportunity for park and ride using parking deck and/or shared parking and TOD at shopping center in northwest quadrant of the Beverly Blvd./Montebello Blvd. intersection. There would be a transfer to Montebello Blvd. and Beverly Blvd. buses.
- Beverly Blvd. at North Poplar Ave. (Montebello) – would be an at-grade split far side platform station. No parking would be provided. Access for roadway drop-offs, pedestrians and bicyclists would be provided by Beverly Blvd. and North Poplar Ave.
- Beverly Blvd. at Rosemead Blvd. (Pico Rivera) – would be an at-grade split far side platform station with the opportunity for park and ride using parking deck and/or shared parking and TOD at the shopping center in southeast quadrant of the Beverly Blvd./Rosemead Blvd. intersection and transfer to Rosemead Blvd. and Beverly Blvd. buses.
- Whittier Greenway at Norwalk Blvd. (West Whittier) – would be a center platform station along the Greenway bridging Norwalk Blvd. No parking would be provided. There would be a transfer to Norwalk Blvd. buses. Access would be available for roadway drop-offs via Norwalk Blvd.; pedestrians and bicyclists via Norwalk Blvd. and the Whittier Greenway.
- Whittier Greenway at Broadway (West Whittier) – would be an at-grade center platform station along the Greenway west of Broadway with no parking. Access would be available for roadway drop-offs via Broadway; pedestrians and bicyclists via Broadway and Whittier Greenway.
- Whittier Greenway at Philadelphia St. (Central Whittier) – would be an at-grade center platform station along the Greenway east of Philadelphia St. with the potential to acquire adjoining industrial parcels for park and ride and the potential for adjacent TOD at Fred C. Nelles School site 500 feet to the south.
- Whittier Greenway at Mar Vista St. (Central Whittier) – would be an at-grade center platform station along the Greenway east of Mar Vista St. with the potential to provide new roadway connection at Mar Vista St. to give access to Presbyterian Medical Center and encourage TOD on south side of Whittier Blvd. There would be a transfer to Whittier Blvd. buses.

Alternative 4 – Whittier LRT Stations and Access

- East 3rd St./East Beverly Blvd./Pomona Blvd. (East Los Angeles) – would be an at-grade center platform (Existing) with a transfer to Atlantic Blvd. buses. Station access will be provided for roadway drop-offs, pedestrians and bicyclists and a park and ride is planned as part of on-going construction.
- South Garfield Ave. south of SR-60 (Monterey Park & Montebello) – would be an aerial center platform over parcels along the west side of South Garfield Ave. with bridge access to a parcel in the northeast quadrant of the Garfield Blvd./Pomona Blvd. intersection. There is the opportunity for park and ride using parking deck and/or shared parking and TOD and transfer to South Garfield Ave. buses.

Design Option 1 – Southern California Edison Utility Corridor

- Whittier Blvd. at South Garfield Ave. (East Los Angeles, Montebello and Commerce) – would be an aerial center platform immediately east of South Garfield Ave. with vertical circulation to a parcel at the northeast or southeast corner. No parking would be provided. There would be a transfer to South Garfield Ave. and Whittier Blvd. buses.

Design Option 2 – Garfield

- Whittier Blvd. at Concourse Ave. (East Los Angeles, Montebello and Commerce) – would be an aerial center platform between Via Vista and Concourse Ave. with a vertical circulation bridge from the west end of the platform to a parcel along the north or south curb of Whittier Blvd. There would be a transfer to South Garfield Ave. and Whittier Blvd. buses.

Either Design Option

- Montebello Old Town (Montebello) – would be an at-grade center platform located on Whittier Blvd. between 10th and Spruce St. immediately west of Montebello Blvd. There is limited opportunity for a parking deck on the alley behind land uses to the north. There would be a transfer to Montebello Blvd. and Whittier Blvd. buses.
- Pico Rivera (Pico Rivera) – would be an aerial center platform station along Whittier Blvd. at Rosemead Blvd. with two design options: (1) over the median of Whittier Blvd., or (2) behind the south curb over parking areas of adjacent commercial properties. There is the opportunity for development of park and ride using additional shared parking constructed over existing parking lots. There is also the opportunity for TOD. There would be a transfer to Rosemead Blvd. and Whittier Blvd. buses.
- Norwalk Blvd. (West Whittier and Los Angeles County) – would be an aerial center platform station across and generally east of Norwalk Blvd. alongside and behind the south curb of Whittier Blvd. There is the opportunity for limited park and ride or TOD on parcels south of Whittier Blvd. along the alignment.
- Philadelphia St. (Central Whittier) – would be an at-grade split far side platform station located at Philadelphia St. There is the opportunity for a large park and ride and/or TOD on

Fred C. Nelles School site lands abutting Whittier Blvd. There would be a transfer to Whittier buses and a shuttle bus connection to Uptown Whittier and Whittier College.

- Mar Vista St. (Central Whittier and Santa Fe Springs) – would be an at-grade split far side platform station along Whittier Blvd. east of Mar Vista St. with the potential to provide a new roadway connection at Mar Vista St. to give access to Presbyterian Medical Center and encourage TOD on south side of Whittier Blvd. There would be a transfer to Whittier Blvd. buses.

Alternative 5 – Washington LRT Stations and Access

- East 3rd St./East Beverly Blvd./Pomona Blvd. (East Los Angeles) – will be an at-grade center platform (Existing) with a transfer to Atlantic Blvd. buses. Station access will be provided for roadway drop-offs, pedestrians and bicyclists and a park and ride is planned as part of on-going construction.
- South Garfield Ave. south of SR-60 (Monterey Park & Montebello) – would be an aerial center platform over parcels along the west side of South Garfield Ave. with bridge access to a parcel in northeast quadrant of the Garfield Ave./Pomona Blvd. intersection. There is the opportunity for park and ride using parking deck and/or shared parking and TOD. There would be a transfer to South Garfield Ave. buses.
- Whittier Blvd. at South Garfield Ave. (East Los Angeles, Montebello and Commerce) – would be an aerial center platform along the median of South Garfield Ave. north of Whittier Blvd. There could be a small park and ride and minor TOD potential on parcels in the northeast quadrant of the intersection. There would be a transfer to South Garfield Ave. and Whittier Blvd. buses.
- South Greenwood Ave. (Montebello) – would be an aerial center platform along the median of Washington Blvd. at South Greenwood Ave. There is the opportunity for park and ride using parking deck and/or shared parking with some TOD potential in one of the four quadrants of the intersection. There would be a transfer to Washington Blvd. and Greenwood Ave. buses.
- Rosemead Blvd. (Pico Rivera) – would be an aerial center platform station located over the eastbound lanes of Washington Blvd. approaching Rosemead Blvd. There is the opportunity to develop park and ride with shared parking and/or parking decks over commercial parking lots and the opportunity to develop TOD on commercial lots in conjunction with shared parking. There would be a transfer to Washington Blvd. and Rosemead Blvd. buses.
- Norwalk Blvd. (West Whittier, Santa Fe Springs and Los Angeles County) – would be an aerial center platform station over the median east of Norwalk Blvd. There would be a transfer to Norwalk Blvd. and Washington Blvd. buses. Access would be provided for roadway drop-offs, pedestrians and bicyclists via Norwalk Blvd. and Washington Blvd.
- Lambert Rd. (Central Whittier and Santa Fe Springs) – would be an aerial center platform over the median generally west of Lambert Rd. There is the opportunity for park and ride

using parking deck and/or shared parking in the southeast quadrant of the Washington Blvd./Lambert Rd. intersection. There is also the potential for TOD with redevelopment of existing commercial uses. Walk access would be available to the Presbyterian Medical Center and shuttle bus connections to Fred C. Nelles School site, Uptown Whittier and Whittier College.

3.3 Summary Transportation Analysis

The following sections summarize the results of the transportation analysis, including the comparison of each alternative from the perspective of transit service and potential ridership and potential effects on the local roadway and highway system.

3.3.1 Comparison by Alternative

Ridership

As indicated in Table 3-16 and in Figure 3-5, the level of ridership varies by alternative. Total project riders range from a low of 7,516 for Alternative 2 (SR-60 Busway) to a high of 15,893 for Alternative 5 (Washington LRT). The other three LRT alternatives (SR-60, Beverly Blvd., Whittier Blvd.) have similar levels of total riders in the range of 13,300.

In terms of new transit ridership, Alternative 2 again ranks the lowest with only 2,116 new riders, while Alternative 5 ranks the highest with 6,407 new riders. The other three alternatives have similar levels of new ridership although Alternatives 3 and 4 encourage more new riders (about 5,000) than Alternative 1 (about 4,300).

User Benefits

As indicated in Table 3-16 and Figures 3-6 and 3-7, the level of user benefits (measured in hours) anticipated with each alternative range from a low of 1,745 hours with Alternative 2 (SR-60 Busway) to a high of 6,403 hours for Alternative 5 (Washington Blvd.). User benefits anticipated for Alternative 1 are 3,867 hours while those anticipated for Alternatives 3 and 4 are 5,316 and 5,169 respectively.

The level of user benefits per project boarding (measured in minutes) anticipated with each alternative range from a low of 13.9 minutes for Alternative 2 (SR-60 Busway) to a high of 24.2 minutes for Alternative 5 (Washington Blvd.). Similar to the total user benefits, Alternative 1 improves on the level anticipated for Alternative 2 (17.4 minutes), but is not as high as that anticipated for Alternatives 3 and 4 (23.7 and 21.6 minutes, respectively).

Travel Time

As indicated in Table 3-17, travel times for all build alternatives provide a substantial improvement over travel times with the No-Build or Baseline/TSM alternatives. Travel times from the end of line to Atlantic Ave. range from 15-17 minutes for Alternatives 1, 2 and 5 (SR-60 LRT, SR-60 Busway, Washington Blvd.) to 24-26 minutes for Alternatives 4 and 3 (Whittier Blvd., Beverly Blvd.). Forecasted travel times are illustrated in Figure 3-8.

When considering travel time to Union Station from the end of line, similar results are expected. Alternatives 1, 2 and 5 range from 35-37 minutes while Alternatives 3 and 4 range from 44-45 minutes.

Travel time savings over the No-Build Alternative are illustrated in Figure 3-9. Travel time savings to Atlantic Ave. from the end of line over the No-Build Alternative are greatest with Alternatives 1 and 2. Alternatives 3, 4 and 5 all provide travel time savings over the No-Build, but the savings are about half as great as for Alternatives 1 and 2 (27-32 minutes for Alternatives 3, 4 and 5 compared with 64 minutes for Alternatives 1 and 2). Similar travel time savings are predicted for the trip to Union Station.

Congestion Relief

As indicated in Table 3-18 and Figure 3-10, each of the Build Alternatives would result in a reduction of vehicle miles travelled (VMT) in the PSA. The greatest reductions would occur for alternatives along SR-60 (Alternative 1 and 2); however, the Whittier Blvd. Alternative (Alternative 4) would provide similar savings in VMT over the No-Build. Alternatives 3 and 5 provide limited savings in VMT over the No-Build reducing VMT by 423 and 508 miles respectively.

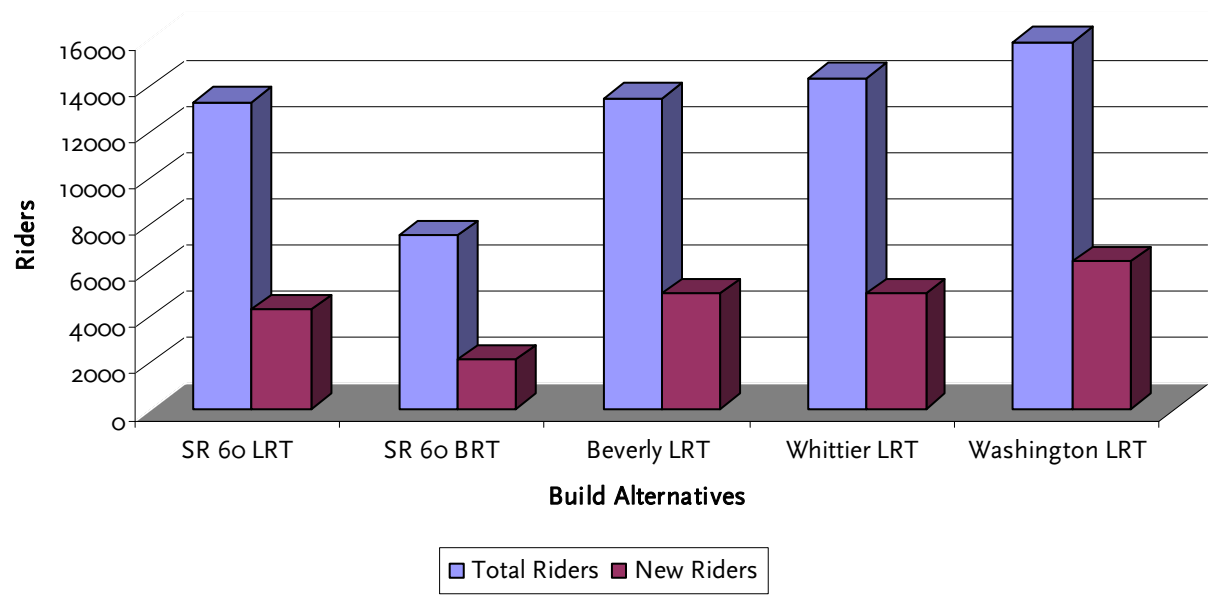
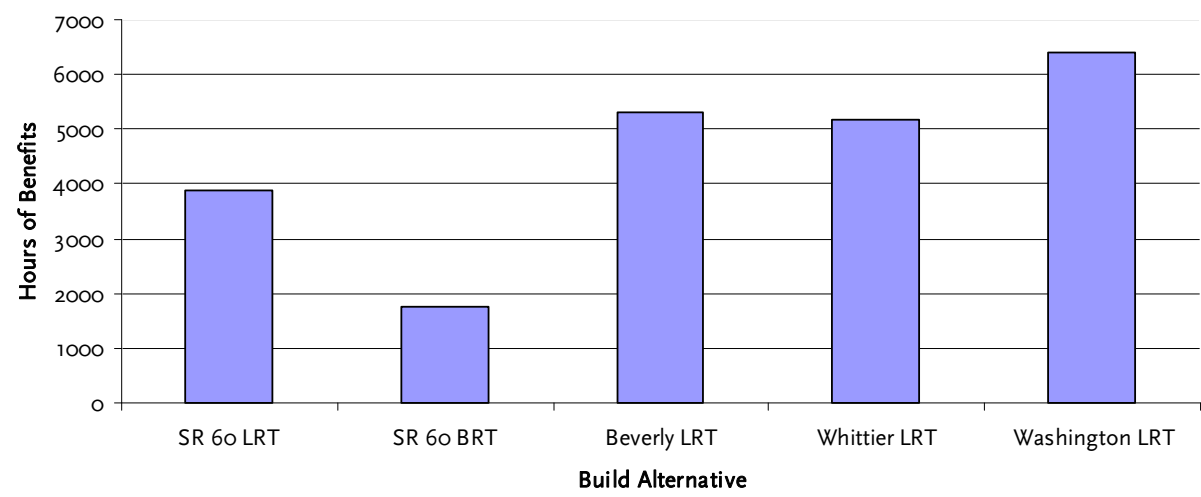
Figure 3-5 Build Alternative Forecast Ridership

Figure 3-6 Transportation User Benefits (Hours)


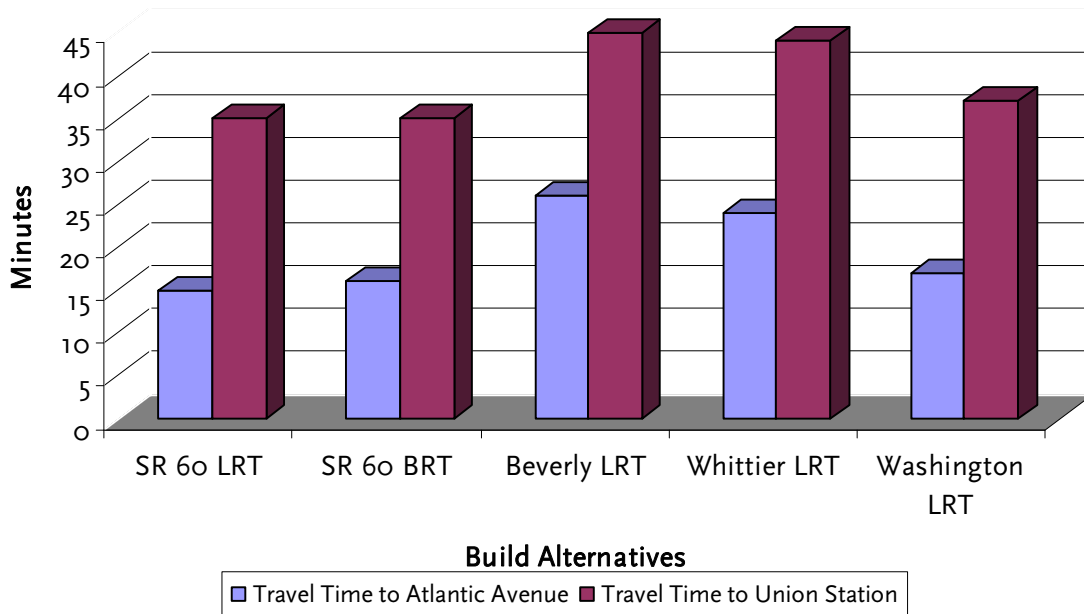
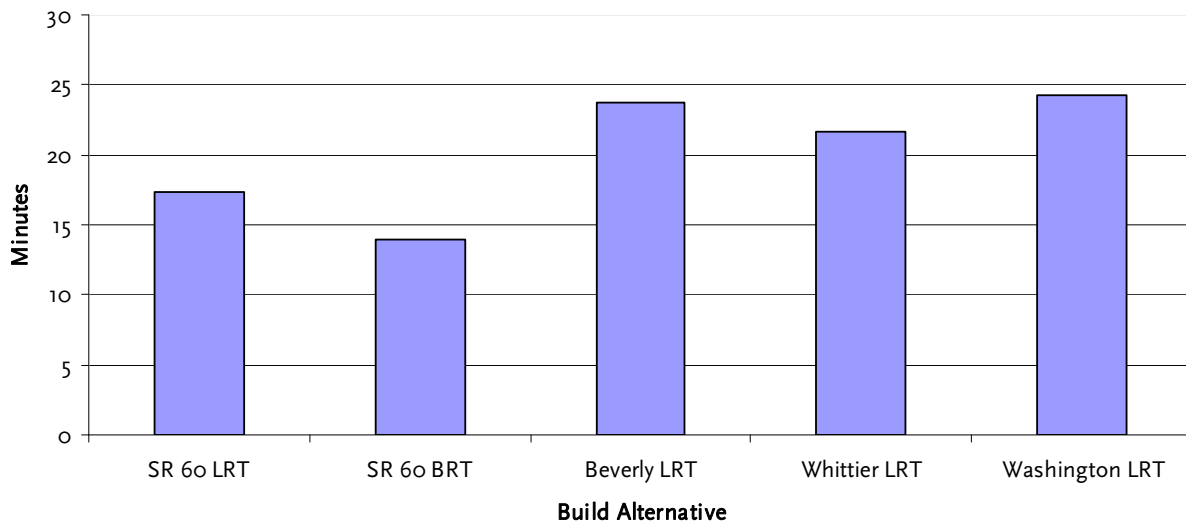
Figure 3-8 Forecast Travel Times

Figure 3-7 User Benefits Per Project Boarding


Figure 3-9 Travel Time Savings Over No Build

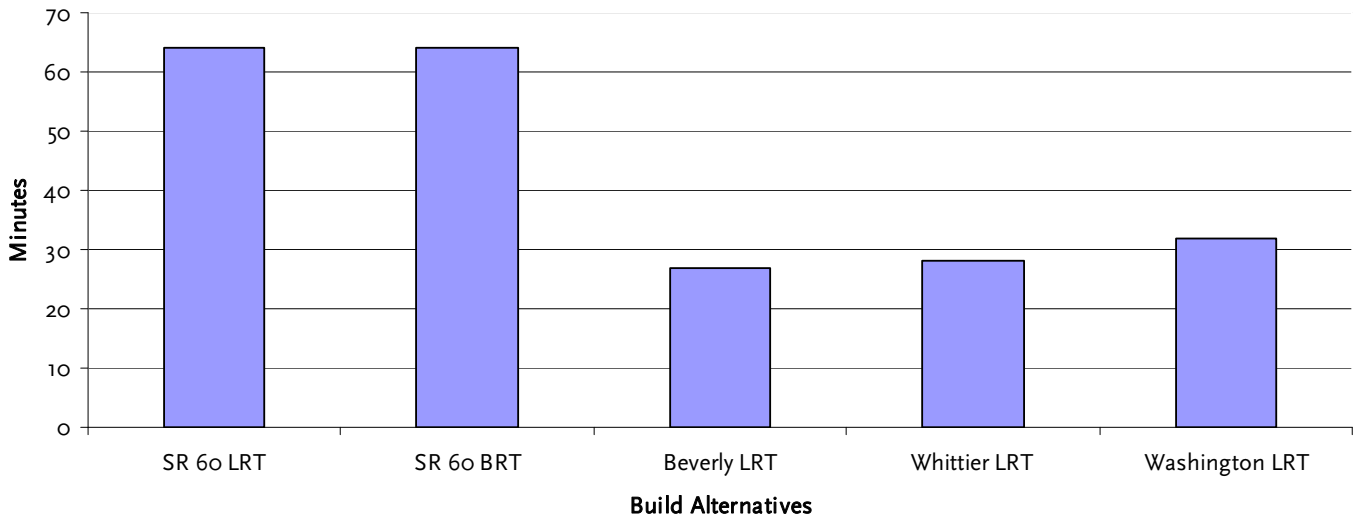
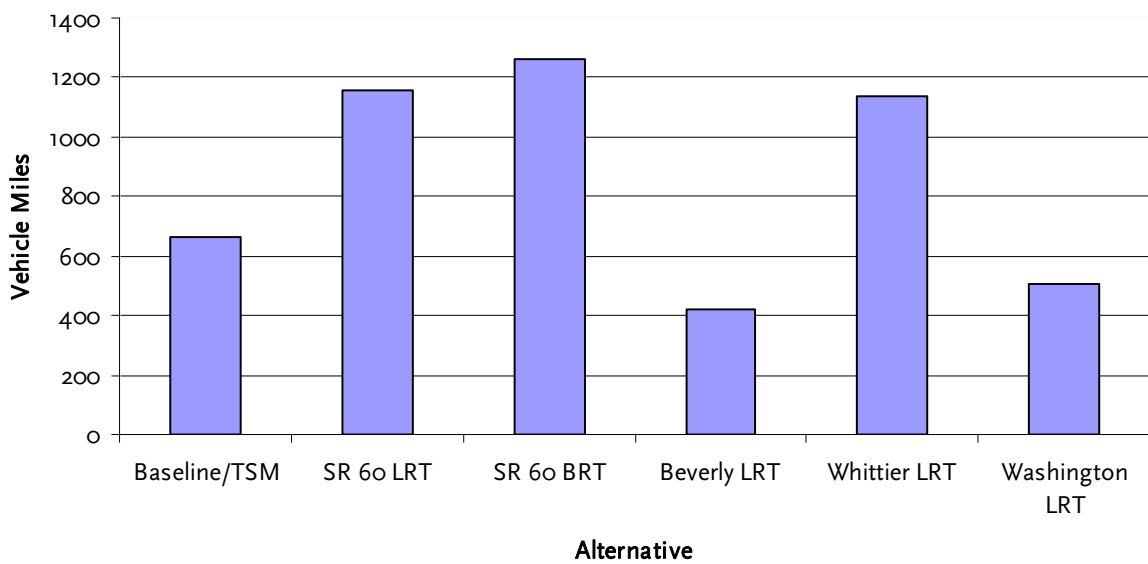


Figure 3-10 Vehicle Miles Traveled Reduction From No Build



Transit Mode Share

None of the alternatives under consideration can be expected to provide huge shifts from private automobiles to public transit. Each of the Build Alternatives does however result in an increase in transit mode share over the No-Build and TSM/Baseline Alternatives as documented in Table 3-19.

The increase in transit mode share over the No-Build Alternative would be highest with Alternative 5 (Washington LRT), but Alternatives 3 and 4 also provide a similar improvement in mode share (7.33 percent versus 7.46 percent). Alternatives 1 and 2 (SR-60 LRT and Busway) result in the lowest shift in mode over No-Build with total transit mode shares of 7.10 percent and 7.00 percent respectively.

Roadway Congestion

Alternative 1: Overall, this alternative would have a relatively minimal affect on traffic congestion and circulation for the entire length of the alignment. Although there would be a short section of at-grade operation, the majority of the alignment would be in an aerial structure along SR-60, and therefore not impact surface roadways.

Alternative 2: Similar to Alternative 1, this alternative would have a relatively minimal affect on traffic congestion and circulation for the entire length of the alignment.

Alternative 3: Overall, Alternative 3 would have moderate impacts to roadway capacity and intersection operations. Impacts to traffic conditions would primarily be focused on the at-grade segment along Beverly Blvd.; however, the aerial segments to the east and west of this section would have relatively low impacts. This alignment would also have a moderate potential impact to major intersections, as it would cross eight major arterials or key roadways.

Alternative 4: Overall, this alternative would include aerial structures to reduce the impacts to key streets and roadway segments, and therefore have a low impact to overall traffic conditions. However, this alternative would have a high potential for impacts to major arterials or other key roadways, as it would intersect with 11 along the entire alignment.

Alternative 5: This alignment have the highest number of intersections with major arterials and other roadways of regional significance (14), which could results in secondary capacity constraints at these locations. Overall, this alternative would have low impacts to roadway capacity along the alignment, as it is primarily an aerial configuration, but would have a high potential for affects to major cross-streets.

3.3.2 Conclusions

Alternatives 1 and 2 would have the least number of potential impacts on roadway congestion and traffic circulation, with Alternative 1 having the lowest levels of ridership and user benefits of any of the Build Alternatives by far. Alternatives 1 and 2 would have the greatest travel time savings over the No-Build condition of all the Build Alternatives.

Alternative 3 would result in moderate levels of roadway congestion and traffic circulation effects as well as moderate levels of ridership and user benefits. Travel time savings would be the lowest of all of the Build Alternatives as would the reduction of VMT over the No-Build condition.

Alternative 4 would be expected to have a low impact on overall traffic conditions, but would have a high potential for impacts to major arterials and other key roadways. Alternative 4 has the second highest ridership forecast, but does not perform as well as other alternatives in the areas of user benefits and travel time savings.

Alternative 5 would have low impacts to roadway capacity, but would be expected to have a high level of impact on major arterials due to the number of intersections with which it intersects. Alternative 5 would have the highest level of ridership of any of the Build Alternatives, the highest level of user benefits, and the highest level of travel time savings for any of the alternatives not located on SR-60.