APPENDIX B

Updated Capital Costs Report

MEMORANDUM

To:	Scott Hartwell, Project Manager
From:	Greg Kyle, AICP Kimley-Horn and Associates, Inc.
Date:	March 10, 2022
Subject:	North Hollywood to Pasadena Bus Rapid Transit Corridor Project Summary of Capital Cost Updates

The capital cost estimate for the North Hollywood to Pasadena Bus Rapid Transit (BRT) Corridor Project was updated to reflect several scope and basis of design decisions in late 2021 and early 2022. This memorandum summarizes these assumptions and corresponding revisions to the capital cost estimate, provides an updated 2022 Cost Estimate Summary Table, and presents the capital cost estimate in the main worksheet of the Federal Transit Administration's (FTA) Standard Cost Categories (SCC) format.

Overall capital cost estimate factors and project-wide elements that were revised, updated, or confirmed as part of this update included:

- Updated the base year for the unit prices of the capital cost estimate from 2020 to 2021.
    - A 5% increase was applied to unit prices from the 2020 capital cost estimate, except for the cost of asphalt which was increased more based on latest cost information.
- Updated the inflation rate used for year-of-expenditure (YOE) calculations from 3% to 5% to reflect current market conditions.
- Did not adjust contingency or professional services assumptions.
- Confirmed public art allowance is calculated as 0.5% of the overall estimated construction cost.
    - Excluded from the calculation of the public art allowance: temporary and permanent right-of-way acquisitions, vehicle procurement, professional services, and unallocated contingency.
- Reduced red colored pavement for dedicated bus lanes from full extent treatment to application only at emphasis locations (this approach is consistent with Advanced Conceptual Engineering (ACE) drawings prepared for the Eagle Rock segment of the Project).
- Reduced fiber optic duct bank assumptions for station communications from ¼ mile per station to 300 feet per station, assuming there will be opportunities to

connect with existing commercial fiber networks based on input of Metro Systems and Telecommunications Engineer.

- Revised vehicle costs to match information provided in Table 8-2 of the LA Metro ZEB Master Plan. The revised vehicle costs include spare parts and procurement support. Allocated contingency and inflation were not applied to the vehicle costs.
- Revised costs for electric vehicle charging units at the Metro Bus Division where the Project's vehicles will be stored, based on information obtained from the LA Metro ZEB Master Plan. Allocated contingency and inflation were not applied to the electric vehicle charging units.
- Adjusted the estimate so that contingency, professional services, and inflation factors are not applied to the allowances established for improvements at the Bus Operation Center (BOC).

Cost estimate revisions for the new design option in the Burbank segment of the Project included:

- New route alignment from Olive Avenue to Alameda Avenue to Buena Vista Street and back to Olive Avenue.
    - This new route alignment eliminated the need for roadway widening, milling, and resurfacing on Olive Avenue between Alameda Avenue and Buena Vista Street.
- Consolidated stations.
    - Eliminated station at Olive Avenue/Alameda Avenue.
    - Added station at Alameda Avenue/Naomi Street.
    - Eliminated station at Olive Avenue/Buena Vista Street.
- Relocated the station serving the Burbank – Downtown Metrolink Station from the Olive Avenue bridge to the Olive Avenue/Lake Street intersection.
    - Removed costs associated with improvements to the Olive Avenue bridge.
- Mixed-flow operations for the BRT on Glenoaks Boulevard between Olive Avenue and Providencia Avenue.
    - Eliminated the need for roadway widening, milling, and resurfacing.

Cost estimate revisions for new design options in the Eagle Rock segment of the Project included:

- Updated the cost estimate per the ACE drawings prepared for the one travel lane per direction and the two travel lanes per direction design options.
- Removed active transportation improvements (curb extensions) that will be constructed by others (City of Los Angeles) based on ongoing coordination for consistency with the Project's design configuration.

Cost estimate revisions for the Glendale segment of the Project included:

- Added an allowance for bicycle facility improvements along Glenoaks Boulevard, which will be coordinated with the City of Glendale.

The table below summarizes the current Year 2022 capital cost estimate for the Project, reflecting the adjustments described above.

2022 Cost Estimate Update		
SCC	**Cost Category**	**2022 Estimate YOE (x,1000)**
20	Station Stops	$22,949
40	Roadway / Utilities / Special Conditions	$115,207
50	Systems	$40,502
10-50	**Construction Subtotal**	**$178,657**
60	Right-of-Way	$18,275
70	Vehicles	$22,308
80	Professional Services	$63,054
90	Unallocated Contingency	$26,609
10-100	**Total Project Cost**	**$308,904**
	Low (-15%)	**$262,568**
	High (+25%)	**$386,129**

Attachment:

- FTA SCC Main Worksheet - Build

M A I N W O R K S H E E T - B U I L D

North Hollywood to Pasadena Bus Rapid Transit | Today's Date: **3/9/22**

Los Angeles County, California | Yr of Base Year $: 2021

Proposed Project (Route Options A1, B, C, D, E1, F-2-Lane, G1, H1) | Yr of Revenue Ops: 2024

	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars Allocated Contingency %	Base Year Dollars TOTAL (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	Escalation Per Annum @ 3% to 5% (X000)	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	0	0		**0**	**0%**	**0%**		**0**
10.01 Guideway: Surface Streets				0				
10.02 Guideway: Freeway				0				
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	15,691	4,707		**20,399**	**13%**	**8%**	**2,550**	**22,949**
20.01 At-grade station, stop, shelter, mall, terminal, platform	15,691	4,707	30%	20,399	13%	8%	2,550	22,949
20.02 Aerial station, stop, shelter, mall, terminal, platform	0	0		0				
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0		0				
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	0		0				
20.05 Joint development	0	0		0				
20.06 Automobile parking multi-story structure	0	0		0				
20.07 Elevators, escalators	0	0		0				
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	0	0		**0**	**0%**	**0%**	**0**	**0**
30.01 Administration Building: Office, sales, storage, revenue counting	0	0		0				
30.02 Light Maintenance Facility	0	0		0				
30.03 Heavy Maintenance Facility	0	0		0				
30.04 Storage or Maintenance of Way Building	0	0		0				
30.05 Yard and Yard Track	0	0		0				
40 SITEWORK & SPECIAL CONDITIONS	78,947	23,459		**102,406**	**64%**	**38%**	**12,801**	**115,207**
40.01 Demolition, Clearing, Earthwork	1,108	332	30%	1,440	1%	1%	180	1,620
40.02 Site Utilities, Utility Relocation	7,029	2,109	30%	9,138	6%	3%	1,142	10,280
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	111	33	30%	144	0.09%	0.05%	18	162
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks	0	0		0				
40.05 Site structures including retaining walls, sound walls	0	0		0				
40.06 Pedestrian / bike access and accommodation, landscaping	10,243	3,073	30%	13,316	8%	5%	1,664	14,980
40.07 Automobile, bus, van accessways including roads, parking lots	41,828	12,323	29%	54,151	34%	20%	6,769	60,920
40.08 Temporary Facilities and other indirect costs during construction	18,017	5,405	30%	23,422	15%	9%	2,928	26,350
40.09 Public Art Allowance	612	184	30%	796	1%	0.29%	99	895
50 SYSTEMS	28,397	7,604		**36,001**	**23%**	**13%**	**4,500**	**40,502**
50.01 Train control and signals	0	0		0				
50.02 Traffic signals and crossing protection	15,590	4,587	29%	20,177	13%	7%	2,522	22,699
50.03 Traction power supply: substations	2,750	0	0%	2,750	2%	1%	344	3,094
50.04 Traction power distribution: catenary and third rail	0	0		0				
50.05 Communications	9,217	2,765	30%	11,982	8%	4%	1,498	13,480
50.06 Fare collection system and equipment	840	252	30%	1,092	0.69%	0.40%	137	1,229
50.07 Central Control	0	0	0%	0	0%	0%	0	0
Construction Subtotal (10 - 50)	123,036	35,771		**158,807**	**100%**	**59%**	**19,851**	**178,657**
60 ROW, LAND, EXISTING IMPROVEMENTS	6,450	435		**6,885**		**3%**		**18,275**
60.01 Purchase or lease of real estate	1,450	435	30%	1,885	1%	1%	189	2,074
60.02 Relocation of existing households and businesses	0	0	0%	0				
60.03 Allowance for Bus Operations Center Contribution	5,000	0	0%	5,000	3%	2%	0	5,000
61.03 Allowance for Vehicle Chargers at Division	11,201	0	0%	11,201	7%	4%	0	11,201
70 VEHICLES	22,308	0		**22,308**		**8%**		**22,308**
70.04 Bus	21,672	0	0%	21,672	14%	8%	0	21,672
70.05 Procurement Support	120	0	0%	120			0	120
70.06 Non-revenue vehicles	0	0	0%	0				
70.07 Spare parts	516	0	0%	516	0%	0%	0	516
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	58,758	0		**58,758**		**22%**	**4,296**	**63,054**
80.01 Project Development	9,528			9,528	6%	4%	429	9,957
80.02 Final Design	12,705			12,705	8%	5%	572	13,276
80.03 Project Management for Design and Construction	15,881			15,881	10%	6%	715	16,595
80.04 Construction Administration & Management	7,940			7,940	5%	3%	993	8,933
80.05 Professional Liability and other Non-Construction Insurance	1,588			1,588	1%	1%	199	1,787
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.	6,352			6,352	4%	2%	794	7,146
80.07 Surveys, Testing, Investigation, Inspection	3,176			3,176	2%	1%	397	3,573
80.08 Start up	1,588			1,588	1%	1%	199	1,787
Subtotal (10 - 80)	**210,552**	**36,206**		**246,758**		**91%**		**282,294**
90 UNALLOCATED CONTINGENCY				**23,056**		**9%**		**26,609**
Subtotal (10 - 90)				**269,814**		**100%**		**308,904**
100 FINANCE CHARGES				**EXCLUDED**				**EXCLUDED**
Total Project Cost (10 - 100)				**269,814**		**100%**		**308,904**
Allocated Contingency as % of Base Yr Dollars w/o Contingency				17.20%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				10.95%				
Total Contingency as % of Base Yr Dollars w/o Contingency				28.15%				
Unallocated Contingency as % of Subtotal (10 - 80)				9.34%			**Low (-15%)**	**$262,568**
YOE Construction Cost per Mile (X000)								
YOE Total Project Cost per Mile Not Including Vehicles (X000)							**High (+25%)**	**$386,129**
YOE Total Project Cost per Mile (X000)								