Los Angeles County
Metropolitan Transportation Authority

Los Angeles – Glendale – Burbank Feasibility Study

Metro Planning and Programming Committee
July 17, 2019

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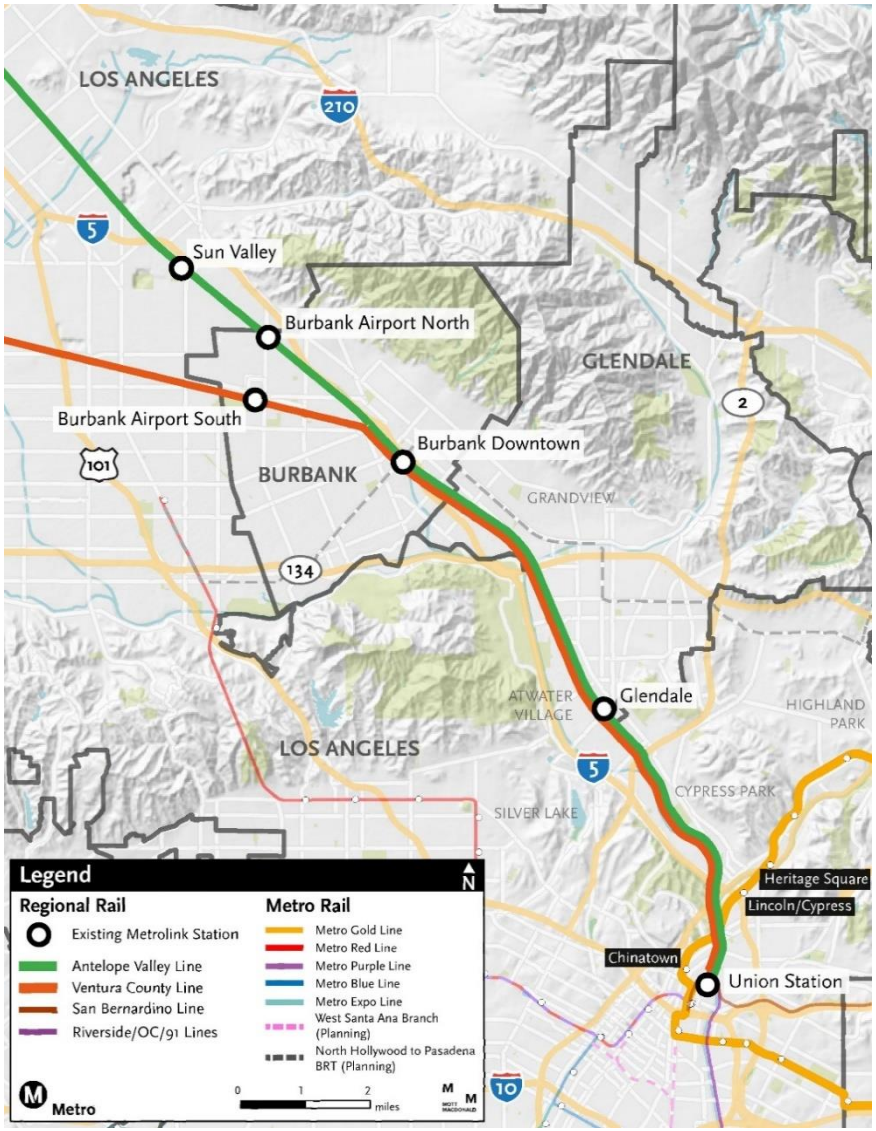
Metro Board Motion

At the March 2016 Board Meeting, Directors Najarian, Garcetti, and Antonovich directed the CEO to conduct a study to:

1. Reassess the previously environmentally cleared light rail transit project in the Los Angeles-Glendale-Burbank corridor (1992);
2. Identify rail connectivity through different rail technologies for the corridor; and
3. Form a working group consisting of key stakeholder cities.



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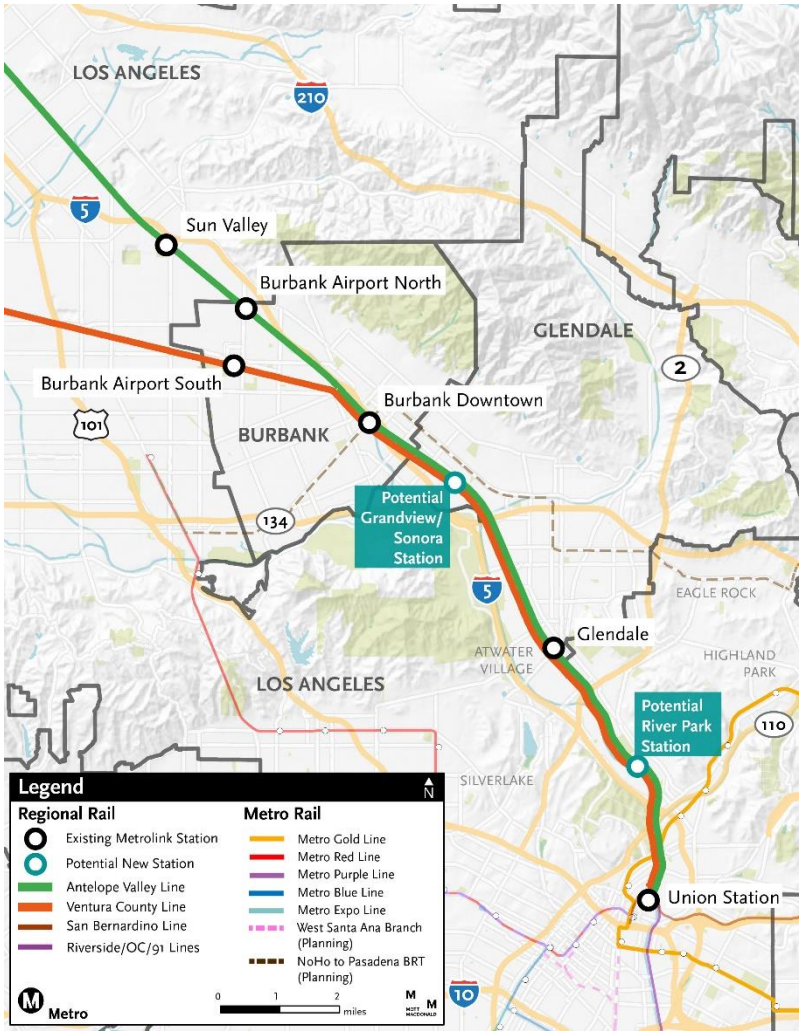
Assess Potential Station Locations

1. Per the motion, up to two station sites in the City of Los Angeles and up to two station sites in the City of Glendale were evaluated
2. Five station sites were initially identified and evaluated based on criteria such as stakeholder feedback and surrounding transit usage
3. Stakeholders and analysis confirmed selection of the **River Park** and **Grandview/Sonora station** locations to be studied further, if desired.



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Potential Metrolink Station Renderings

River Park

Pros: New multi-family housing, new/existing recreational developments (G2 Park and Taylor Yard Ped/Bike Bridge) and existing schools located within walking distance. Likely to have sufficient right-of-way width and space for some parking provision.

Cons: Site located on curve (not ideal for rail operations) and in close proximity to Central Maintenance Facility.

Cost: $52 Million (2018$)

Grandview/Sonora

Pros: Large employer campuses (Disney & DreamWorks) are located within walking distance; high bus ridership in this area.

Cons: Location between two at-grade crossings may impact gate times at those intersections. Existing Quiet Zone designation requires additional safety infrastructure at crossings. Limited space for parking provision.

Cost: $24 Million (2018$)

Evaluate Rail Service by Mode

	Locomotive Haul Coaches (LHC) e.g. Metrolink	Rail Multiple Unit (RMU) Trains e.g. Redlands Passenger Rail Project (SBCTA)	Light Rail Transit (LRT) e.g. Metro Gold Line
Corridor Operations	Shared track with freight and DMU (FRA compliant)	Shared track with freight and LHC (FRA compliant)	Two dedicated tracks (non-FRA compliant)
Speed (avg speed with stops and max corridor speed)	36 / 79 mph	40 / 79 mph	24 / 65 mph
Average Station Spacing	5 miles	1 – 4 miles	1 mile
Level of Investment	Low (New locomotive at $7M; new passenger car at $2M corridor upgrades TBD)	Medium (New vehicles at $10-$15M/vehicle; new MS at $30-$50M; corridor upgrades TBD)	High (New corridor and vehicles needed at $250M+ per mile)
Similar Project Costs		$290M – Redlands Passenger Rail Project	$2.3B – Gold Line Extension Phase 2b to Pomona
Max. Passenger Capacity	**840 sitting** (six-car sets)	**450 sitting and standing** (three-car sets)	**405 sitting and standing** (three-car sets)

Light Rail Transit (LRT) Scenarios

SCENARIO	L Option 1 LRT Service - Metrolink Corridor	L Option 2 LRT Service - Downtown Glendale and Burbank
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	6-min Peak 12-min Off Peak	6-min Peak 12-min Off Peak
WEEKDAY ROUND TRIPS	15 Antelope Valley Line 16 Ventura County Line 9 Amtrak 130 LRT	15 Antelope Valley Line 16 Ventura County Line 9 Amtrak 130 LRT
ADDITIONAL IMPROVEMENTS	1. New LRT alignment 2. New LRT stations 3. Additional trains 4. New LRT bridge over LA River 5. New LRT maintenance facility	1. New LRT alignment 2. New LRT stations 3. Additional trains 4. New LRT bridges over LA River and Interstate 5 5. New LRT maintenance facility
CAPITAL COSTS [1]	$3.3B - $4.2B	$4.6B - $6.0B
ANNUAL O&M COSTS [1]	$25M - $37M	$29M - $50M
AVERAGE WEEKDAY BOARDINGS [2] 2028 / 2042	Metrolink 15,800 / 34,300 LRT 42,600 / 50,500	Metrolink 15,900 / 34,400 LRT 44,600 / 53,300

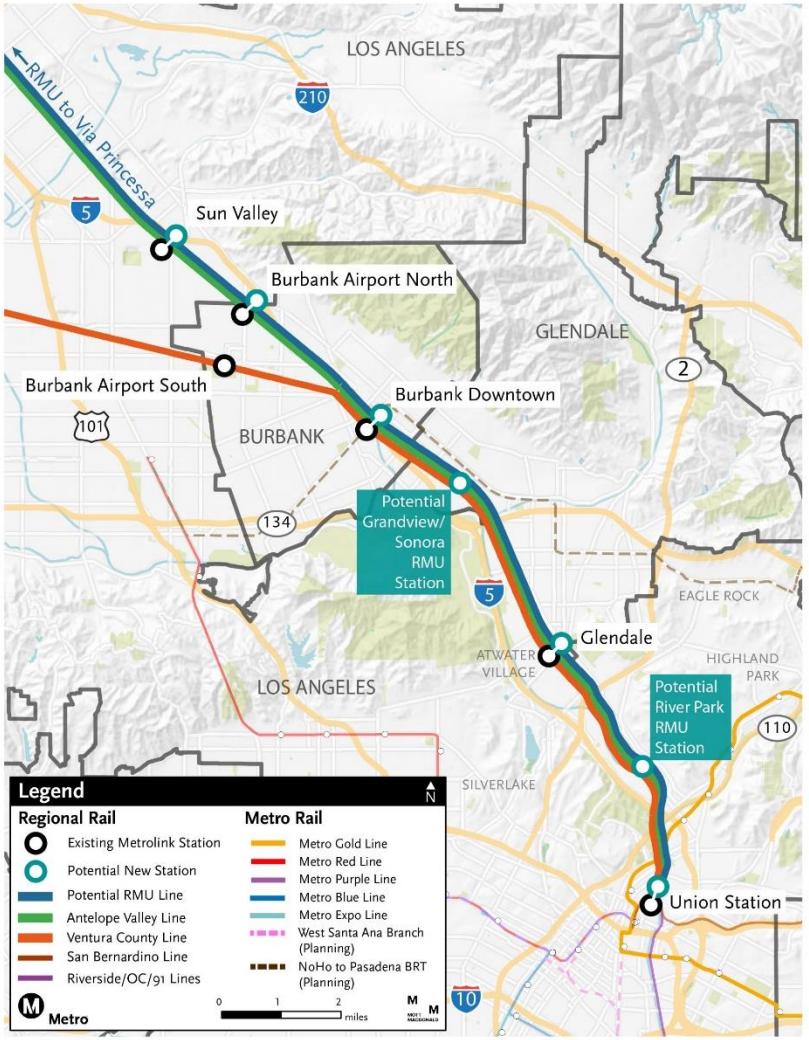
1 Costs reported in 2018 $

2 Ridership reflects AVL passengers only

Rail Multiple Unit (RMU) Scenario

*Metrolink's Locomotive Haul Coach trains is better suited for AM/PM peak services, with 840 passengers per train using a blended approach with RMU trains (at 450 passengers) for the mid-day services.

SCENARIO	RMU Option* Blended Metrolink + RMU service to Via Princessa
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	15 15-minute bi-directional AVL
WEEKDAY ROUND TRIPS	37 Antelope Valley Line 16 Ventura County Line 9 Amtrak 35 RMU
ADDITIONAL IMPROVEMENTS	1. Station mods at existing stations for RMUs 2. New RMU stations 3. Additional trains 4. North AVL Improvements 5. New RMU maintenance facility 6. Optional third track and station modifications to Glendale and Burbank-Downtown
CAPITAL COSTS [1]	$849M
ANNUAL O&M COSTS [1]	$30M
AVERAGE WEEKDAY BOARDINGS [2] 2028 / 2042	Metrolink and RMU 34,900 / 52,400



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Proposed Metrolink AVL Service Scenarios

SCENARIO	Existing Conditions	M Option 1 Add 1 Evening Train Friday, Saturday	M Option 60 60-min Bi-directional	M Option 30 30-min Bi-directional	M Option 15 15-min Bi-directional
AVERAGE FREQUENCIES ANTELOPE VALLEY LINE	Peak Direction 25-55 minutes Off Peak Direction 60-90 minutes	Peak Direction 25-55 minutes Off Peak Direction 60-90 minutes	60 60-minute bi-directional AVL	30 30-minute bi-directional AVL	15 15-minute bi-directional AVL
WEEKDAY ROUND TRIPS	15 Antelope Valley Line 16 Ventura County Line 6 Amtrak	16 Antelope Valley Line 16 Ventura County Line 6 Amtrak	18 Antelope Valley Line 16 Ventura County Line 9 Amtrak	36 Antelope Valley Line 16 Ventura County Line 9 Amtrak	74 Antelope Valley Line 16 Ventura County Line 9 Amtrak
ADDITIONAL IMPROVEMENTS	None	None	1. Double Track near Balboa Tunnel	1. Additional trains 2. North AVL Improvements	1. Additional train 2. North AVL Improvements 3. Optional third track and station modifications to Glendale and Burbank-Downtown
CAPITAL COSTS [1]	None	None	$42M	$175.2M	$760 M
ANNUAL O&M COSTS [1]	$34.5M	$35.4M	$38.5M	$45.5M	$68.8M
AVERAGE WEEKDAY BOARDINGS [2] 2028 / 2042	Metrolink 16,500 / 36,000	Metrolink 16,500 / 36,400	Metrolink 15,600 / 38,100	Metrolink 22,800 / 41,600	Metrolink 38,000 / 59,200

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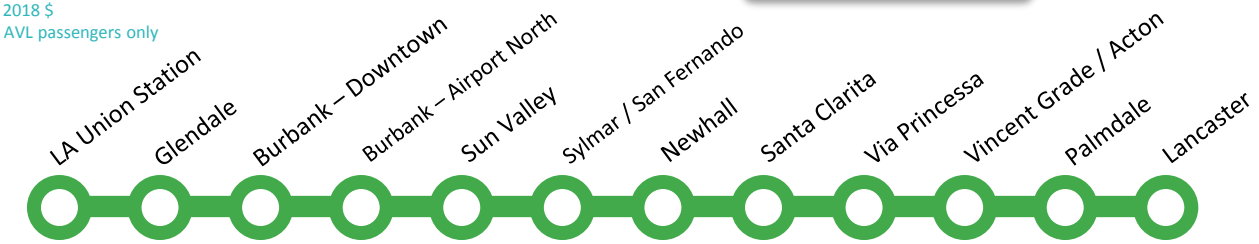

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Evaluation Criteria & Study Results

	Metrolink 60M	Metrolink 30M	Metrolink 15M	RMU	LRT in Corridor	LRT Glendale/ Burbank
Transit Accessibility	medium	high	high	high	high	high
Ridership	low	medium	high	medium	high	high
Stakeholder Preferences	medium	medium	high	medium	medium	high
ROW Requirements	high	high	medium	medium	medium	low
Environmental Constraints	high	high	medium	medium	low	low
Parking Considerations	high	high	medium	medium	low	low
Travel Time & Headways	low	medium	high	high	high	high
Integration of Operations	high	high	medium	medium	low	low
Capital & Operating Costs	high	high	medium	medium	low	low

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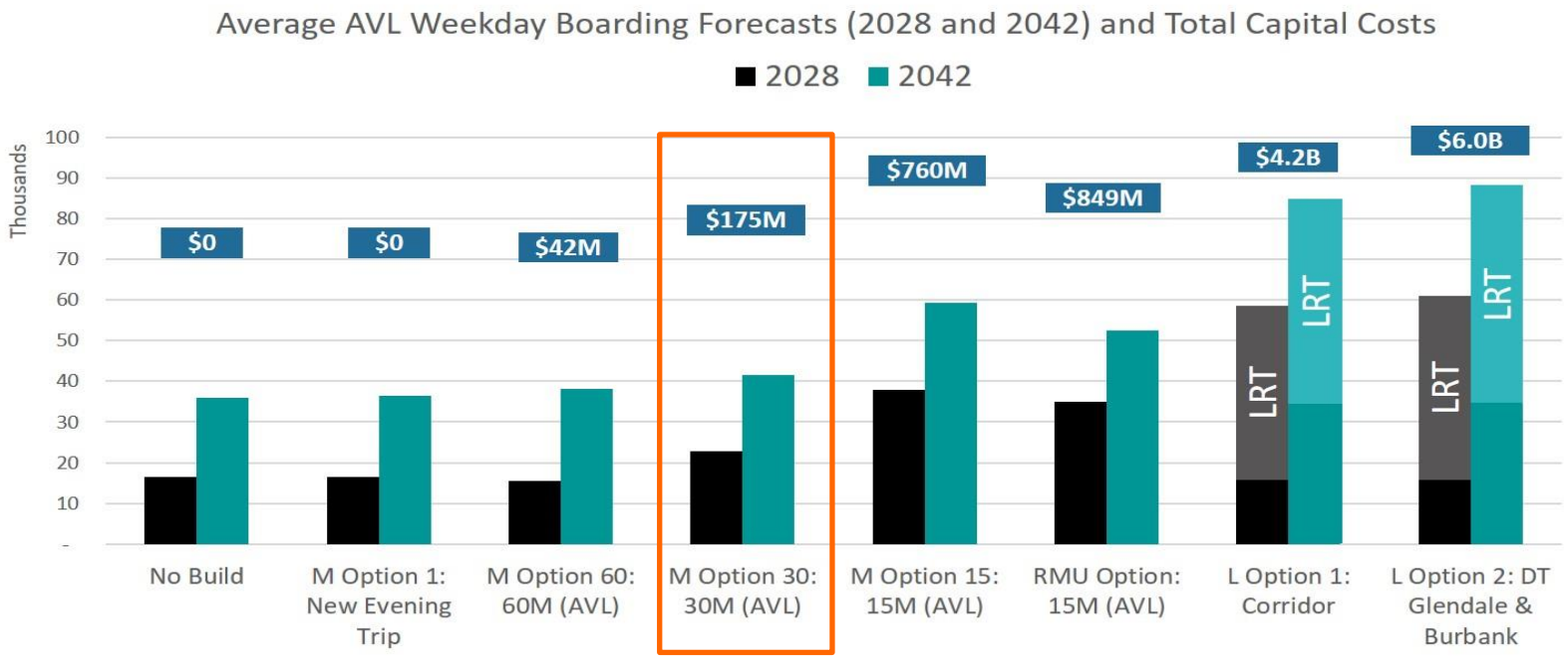
low medium high

Conclusion



The Metrolink 30-min option is the preferred scenario

1. Strong ridership growth is achieved, an increase from 7,000 daily passengers today to 22,000 daily passengers in 2028 and 40,000 daily passengers in 2042.
2. Much lower capital costs ($175.2M) compared to RMU ($849B) and LRT ($4.2B up to $6B) scenarios
3. Most of all of the required capital improvements to serve 30 min service are within Metro owned ROW with limited environmental and right-of-way impacts.
4. Allows for incremental approach to service expansion based on demand and funding.
5. Allows for future services in the corridor (e.g. Virgins Trains high-speed rail, RMU).

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Questions?

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Photo: Charles Freericks