

## Glendale Beeline Transit Route Analysis Executive Summary

The Beeline operates within a transit-rich environment. Figure ES.1 shows the regional and Beeline routes that operate in or through Glendale.

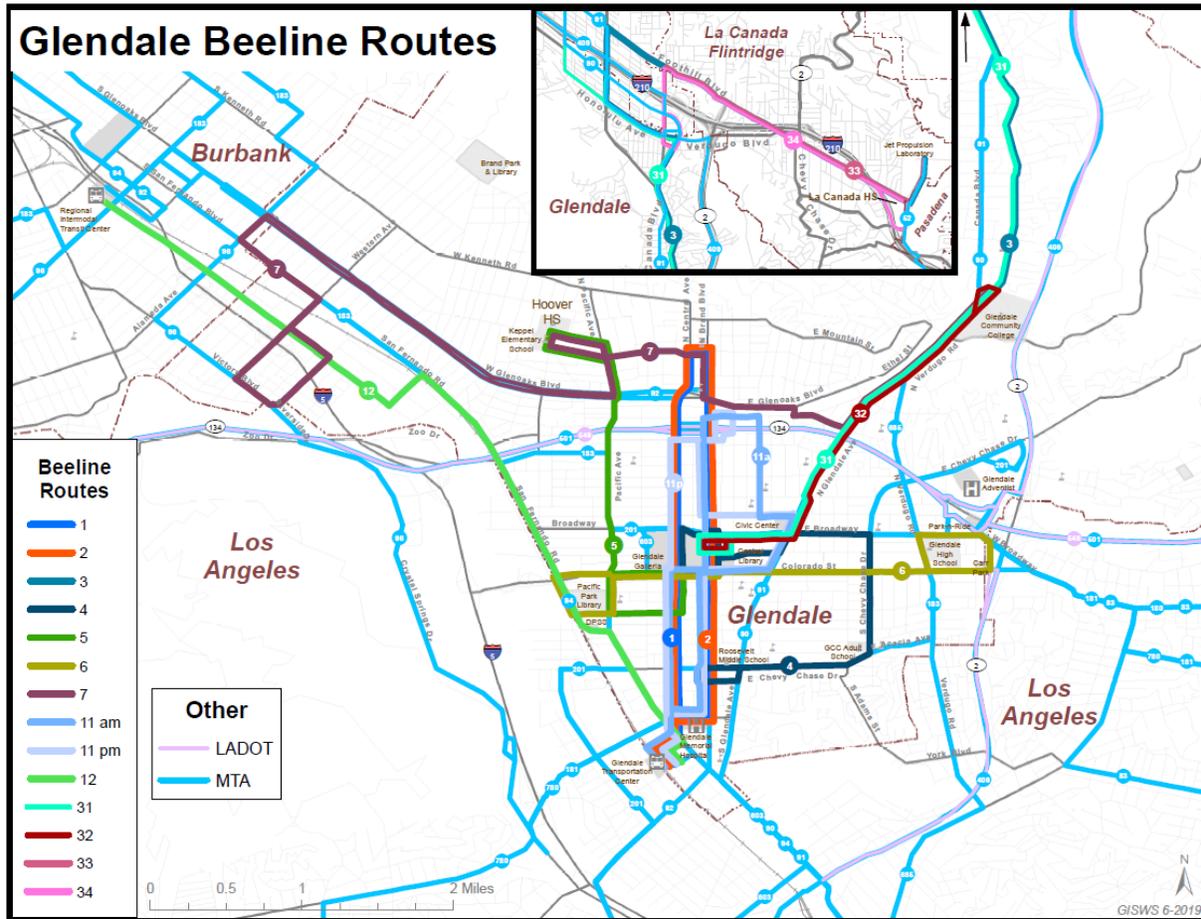


Figure ES.1 Glendale Beeline Routes and Regional Routes in and through Glendale

The Transit Route Analysis is intended to capture an abundance of precise data and analyze the existing network of all fixed route transit services (regardless of provider) in the Glendale, Burbank, La Canada Flintridge, and unincorporated areas of Los Angeles County – Montrose and La Crescenta. Regardless of provider or mode, the results of the Transit Route Analysis is a reimagining of the local transit service network in the Beeline service area, with specific recommendations for Glendale’s service deployment.

This executive summary reports on the review of local planning studies recommendations and evaluates potential impacts on Beeline service, describes ridership and performance of Beeline routes based on the 100 percent ridecheck conducted in November 2018, presents results of the on-board survey of Beeline riders, examines opportunities for enhanced agency

coordination of local and regional services within the City of Glendale and nearby areas and analyzes Metro's "Big Data" findings, describes extensive outreach efforts to Glendale residents, employees, and businesses and summarizes the results of these efforts, including e-survey findings, and identifies service options for the Beeline and presents the recommended service plan.

### **Previous Studies**

The plans reviewed cover a wide spectrum of city planning, from city-wide and area-specific plans with transportation components to transportation plans focusing on transit to enhance the mobility of residents and visitors. Plans for Bus Rapid Transit and a Streetcar will have regional implications beyond Glendale as well as specific impacts within the City. Many plans call for a greater role for transit to support increased residential densities and provide an alternative to single-occupancy vehicles. Increased focus on bicycle and pedestrian infrastructure is also a part of many of these plans.

This study develops specific recommendations for transit improvements to support (and in some cases to anticipate) these visions of a future Glendale. While not tailored to any specific plan, the recommendations can be implemented in the near-term and the medium-term future to preserve and enhance mobility in a growing City and region.

### Ridership and Productivity

Table ES.1 presents ridership by route for weekdays, Saturday, and Sunday. Route 4 Roosevelt Middle School - Glendale Galleria has the highest weekday ridership (1,037 boardings per weekday) and also leads in Saturday and Sunday ridership. Route 3 Glendale Galleria - Jet Propulsion Laboratory (JPL) is second in weekday ridership, with 998 boardings per weekday. Other all-day routes have ridership in the range of 500 to 800 boardings per day. Routes 11 (Metrolink Express Glendale Transportation Center to Downtown Glendale) and 12 (Metrolink Express Glendale Transportation Center to Burbank Regional Intermodal Transportation Center) are express routes serving the Metrolink station at the Glendale Transportation Center (GTC) and operate in the morning and afternoon peak periods only, with schedules timed to meet Metrolink trains.

**Table ES.1  
Beeline 2018 Ridership by  
Route and Day of Week**

Route	Weekday		Saturday		Sunday	
	Riders	Rank	Riders	Rank	Riders	Rank
1	540	6	232	4	200	3
2	572	5	284	3	225	2
3 (31 Saturday)	998	2	228	5	--	--
32	160	11	--	--	--	--
33	212	9	--	--	--	--
34	103	12	--	--	--	--
4	1,037	1	436	1	286	1
5	658	4	130	7	--	--
6	500	7	289	2	--	--
7	786	3	178	6	--	--
11	190	10	--	--	--	--
12	307	8	--	--	--	--
<b>Total</b>	<b>6,063</b>	--	<b>1,777</b>	--	<b>711</b>	--
<b>Local Routes</b>	<b>5,566</b>	--	<b>1,777</b>	--	<b>711</b>	--
<b>Express Routes</b>	<b>497</b>	--	<b>--</b>	--	<b>--</b>	--

Source: Ridecheck Data, November 2018

Table ES.2 shows the change in Beeline ridership since the 2013 ridecheck. Overall ridership has decreased by 21 percent on weekdays, 8 percent on and Saturday, and 9 percent on Sunday. Routes 32 Glendale Galleria - GCC, 3 Galleria-JPL, 7 Riverside Rancho – GCC, and 4 Roosevelt Middle School – Galleria experienced the greatest decreases in weekday ridership; all of these routes except Route 4 serve Glendale Community College.

Weekday ridership increased on the La Cañada Shuttles Route 33 La Crescenta - JPL (+16 percent) and Route 34 La Crescenta - La Cañada High School (+24 percent).

Weekday ridership declines have been modest on Routes 1 and 2 along Central and Brand in downtown Glendale. Saturday ridership increased on both routes and Sunday ridership increased on Route 1. Route 6 Pacific Community Center – Glendale High School also has increased ridership on Saturday.

**Table ES.2  
Beeline Percentage Changes in Ridership by  
Route and Day of Week, 2013 to 2018**

Route	Weekday	Saturday	Sunday
1	-3%	+14%	+15%
2	-6%	+11%	-7%
3 (31 Saturday)	-34%	-36%	--
32	-55%	--	--
33	+16%	--	--
34	+24%	--	--
4	-25%	-11%	-22%
5	-16%	-23%	--
6	-17%	+4%	--
7	-26%	-3%	--
11	-11%	--	--
12	-10%	--	--
<b>Total</b>	<b>-21%</b>	<b>-8%</b>	<b>-9%</b>
<b>Local Routes</b>	<b>-22%</b>	<b>-8%</b>	<b>-9%</b>
<b>Express Routes</b>	<b>-10%</b>	<b>--</b>	<b>--</b>

Source: Ridecheck Data, 2018 and 2013

Table ES.3 shows service effectiveness in terms of passenger boardings per revenue hour, a common measure of productivity in the transit industry. Route 34 – La Cañada High School Shuttle, Route 3 Galleria-JPL, and Route 4-Roosevelt MS-Galleria are the most productive routes on weekdays, while Route 4 is the most productive route on weekends. Not surprisingly, productivity is highest on weekdays and lowest on Sunday. The Metrolink Express routes have the lowest productivity. On an annualized basis, i.e., including all weekday, Saturday, and Sunday service, overall productivity is 20.9 passenger boardings per revenue hour.

As a general rule of thumb in assessing service effectiveness by means of passenger boardings per revenue hour on weekdays, 40 indicates a good route, 20 is acceptable for a community route, and anything below 15 is a red flag to examine the route more closely and restructure, change span of service or cancel service. The lowest productivity is seen on Route 31-Glendale/GCC on Saturday, with 9.7 boardings per revenue hour.

**Table ES.3  
Beeline 2018 Boardings per Revenue Hour by  
Route and Day of Week**

Route	Weekday		Saturday		Sunday	
	B/RH	Rank	B/RH	Rank	B/RH	Rank
1	18.4	6	13.2	5	11.6	3
2	17.9	7	16.2	3	13.1	2
3 (31 Saturday)	29.9	--	9.7	--	--	--
32	16.2	--	--	--	--	--
33	18.0	--	--	--	--	--
34	36.6	--	--	--	--	--
4	28.6	1	28.1	1	18.5	1
5	28.1	2	16.1	4	--	--
6	21.0	5	18.6	2	--	--
7	21.2	3	12.0	6	--	--
11	15.8	9	--	--	--	--
12	17.3	8	--	--	--	--
<b>Total</b>	<b>21.5</b>	--	<b>15.8</b>	--	<b>14.2</b>	--
<b>Local Routes</b>	<b>22.1</b>	--	<b>15.8</b>	--	<b>14.2</b>	--
<b>Express Routes</b>	<b>16.7</b>	--	--	--	--	--

Source: Ridecheck Data, November 2018

Percentage changes in Beeline boardings per revenue hour since the 2013 ridecheck are similar to changes in ridership, since there have been only minor changes in revenue hours. Productivity increased from 2013 to 2018 on the La Cañada Shuttles (Routes 33 and 34) on weekdays, Routes 1, 2 and 6 on Saturday, and Route 1 on Sunday.

**On-board Survey Findings**

Beeline riders are using transit primarily for school and work trips: 38 percent of all trips are work-related and 25 percent are school-related. The City of Glendale accounts for the overwhelming number of origins and destinations on Beeline buses. Approximately 84 percent

of all trips begin and end in Glendale. Glendale Community College, the Glendale Transportation Center, Hoover High School, and various stops in downtown Glendale are major destinations for Beeline passengers.

Most riders get to or from the bus by walking and 18 percent of all riders transfer from another bus. Beeline riders tend to be frequent, long-time riders, but 15 percent began using the system in the past six months.

Survey respondents expressed an overwhelming preference for greater frequency on existing routes over new or extended routes to new places. Respondents were more likely to choose fewer stops to speed up the buses, even if it meant a longer walk to/from the stop. More peak period service ranked highest among weekday improvements. The most requested weekend changes were to operate more routes on Saturday and to operate later in the evening.

A new question in this year's survey asked about any factors that prevent greater use of the Beeline. Over one-third of respondents indicated that there were no factors, while one-quarter said that Beeline routes do not travel where they need to go and one-fifth reported that the Beeline does not travel when they need it.

Over three-quarters of all respondents carry smartphones, and a majority in every demographic category measured have smartphones with them. Among respondents 62 years of age and older, 57 percent reported carrying a smart phone, compared to 29 percent in 2013. Half of Beeline customers have used NextBus. NextBus use is least common among respondents 62 and older and among respondents 17 and under.

NextBus has replaced printed schedules as the most common way to find out schedule information. Customers also prefer NextBus as their future source of information, followed by printed schedules and Google Transit. The majority of respondents pay for their fare with cash, and about half indicated that cash is their preferred future mode of payment. Only 28 percent of respondents own a Metro TAP card.

Beeline riders are more likely to be female than male. Many Beeline riders report low incomes, but almost 40 percent of local riders have household incomes above \$20,000 and 73 percent live in a household with at least one vehicle. Riders are of all ages. Since 2013, the percentage of riders age 62 and older has increased from 12 to 18 percent. The most common ethnicity is Latino, but Latino riders do not constitute a majority of all riders.

Beeline riders are very pleased with the service. On a scale of one (poor) to four (great), respondents rate Beeline service at an average of 3.57, a very high rating and an increase from 3.36 in 2013. The highest rated items are cleanliness, safety, and operator courtesy. The lowest ratings among all service elements are for availability of schedules (3.36), but even this score is respectable. Customer ratings increased for each service element since 2013.

### **Regional Bus Service in and Near Glendale**

Metro is clearly a key provider of regional bus service in Glendale, with 14,000 weekday boardings and 7,000 to 8,000 weekend boardings at stops within the City. The most important

Metro lines in terms of ridership within Glendale are Routes 90 and 91 along Glendale Avenue, Cañada Boulevard, Montrose Avenue, and Foothill Boulevard, Route 92 on Brand Boulevard and Glenoaks Boulevard, and Routes 180/181/780 on Broadway, Central Avenue, and Los Feliz Boulevard.

Burbank and Pasadena also operate local bus networks within their cities. There are limited connections between either of these networks and the Beeline, although there appear to be important travel patterns between the three cities

The smartphone-based travel database developed by Metro indicates that Foothill Boulevard travel tends to stay along the corridor from Sunland to Pasadena. The geographic unit of the census tract is more appropriate for an assessment of regional as opposed to local travel, and the inability to pinpoint specific locations of interest such as GCC due to privacy concerns further limits the usefulness of this data source in reimagining the local Beeline network.

### **Public Outreach**

The project team developed a multi-lingual, community-wide online survey (e-survey) designed to invite input from the Glendale community and individuals who travel within and through Glendale. The e-survey was open online and promoted extensively over eight weeks, from the second week of February through the second week of April, to allow for responses from Glendale Community College when they returned for spring semester and from community events during that time period. Viable responses were received and analyzed from 682 individuals.

Survey findings highlighted the following opportunities that can be addressed by TRA recommendations:

- Need for transportation is a critical driver for transit usage -one-third of transit riders do not have a vehicle and 43% have one vehicle (significantly higher on both counts than non-transit users).
- Lack of awareness of the Beeline service is a potential area to address. Over 40 percent of responding non-transit users are unaware of any bus service in the Glendale area.
- Opportunities do exist for educating and travel training non-users. Twenty-eight percent of non-transit users said they would consider riding the bus if they felt more confident. Only 10 percent of respondents indicated they would not consider riding the bus.
- At 22 percent of all respondents, students represent a significant market. Nearly four out of ten responding students indicated they rode the bus. For students who do ride Beeline or LCF Shuttle, 37 percent wanted a free ride with their student ID. Of students who don't ride the bus, 21 percent reported they wanted a free ride with their student ID.
- There is potential opportunity—and demand—for later weekday service. Fifteen percent of respondents reported returning home between 8–10pm. This is consistent with current

bus rider suggestions for later service during the week, which was reported as a priority enhancement by 37% of Beeline/LCF Shuttle riders.

## Recommendations

The recommendations presented here are the result of analysis of the ridecheck and surveys, fieldwork by project team members, discussions with Glendale transit staff, and insights gleaned through the public outreach process. Existing riders value greater frequency on existing routes, faster service, additional peak-period service, and later hours of operation in the evening. E-survey respondents who do not ride the Beeline value a fast, direct ride to their destination, more choices (added routes), a shorter wait (increased frequency), and later service in the evening. The respondents also stressed the need for transit apps that track the buses in real time and enable electronic fare payment. Respondents who ride Metro or Metrolink requested coordinated transfers between these services and the Beeline.

The recommendations are intended to provide:

- Frequent, faster, later service
- New connections within the City of Glendale
- New connections between Beeline and Metro/Metrolink – Beeline as the way into Glendale
- Connections to/from neighboring cities

Near-term recommendations (over the next year) include:

- Operate Beeline service on Central Avenue and Metro service on Brand Boulevard. Combining Beeline service on a single street instead of operating a short distance apart would double the frequency of service from one bus every 20 minutes to one bus every ten minutes *at minimal cost*. This recommendation makes Central Avenue the corridor for local service and Brand Boulevard the corridor for regional service.
- Introduce a new Route 8 along South Glendale Avenue connecting the Glendale Transportation Center with Glendale Community College. Residents living near South Glendale Avenue have requested Beeline service for a long time, and GCC administrators are requesting a link to commuter rail. The route would operate every 20 minutes on weekdays and Saturday. To avoid extensive duplication with Metro and Beeline Routes 3 and 7, Route 8 is proposed to operate express between Broadway and GCC.
- Discontinue Route 32. This route was introduced several years ago to support Route 3 with additional service between downtown Glendale and GCC and has never performed up to expectations. The November 2018 ridecheck revealed only 160 riders on a typical weekday, a 55 percent decrease from 2013, and the lowest productivity of any local Beeline route (16.2 riders per revenue hour). The resources saved by this continuation can be put to better use on the new Route 8.

- Improve frequency on Route 4 and extend to San Fernando Road. Route 4 leads all Beeline routes in weekday and Saturday ridership and productivity. This proposal increases frequency on this route to one bus every 15 minutes and also extend the route westward via Broadway to San Fernando Road to connect with Metro Lines 94 and 794. This connection would provide a more direct route into downtown Glendale for riders coming from northwest of the City.
- Add evening service. Two pilot projects are proposed to provide later service on the Beeline. Evening Pilot A would provide service until 10:15 pm on Monday through Thursday nights during the fall and spring semesters on Routes 3, 7, and 8 (serving the GCC Verdugo campus), and until 8:30 PM Monday through Thursday on Route 4 (serving the GCC Garfield campus).. GCC has night classes on Monday through Thursday nights that are not served by the current schedule. Evening Pilot B would provide service until 10:15 pm on Friday and Saturday nights on local Routes 1 through 8. The Americana at Brand closes at 10 pm on Friday and Saturday, so the last outbound trip would depart at 10:15 pm. Expectations regarding ridership and productivity would be set before implementation on both pilot projects, and the success of the pilot projects can be measured in 12 months against expected performance.
- Consider participation in a U-pass Program with Metro and GCC. Metro has established a U-pass program with several colleges and transit agencies and would like to add Glendale Community College as a participating institution and the Beeline as a participating transit agency. Students can obtain passes at their school, and the school will be billed at a rate of 75 cents per boarding. Each participating agency is reimbursed 75 cents per boarding at the end of each semester. The City is concerned, and rightly so, about the impact of a U-pass program at GCC on farebox revenue. This study recommends that the Beeline continue to explore ways of participating in the U-pass program while keeping fare revenue whole. The study further recommends that any agreement to participate in a U-pass program be structured as a one-year demonstration project, with ridership and revenue impacts to be calculated at the end of the demonstration period.
- Develop a MicroTransit demonstration project in the area north of Route 3 along Foothill Boulevard, extending west to encompass the Far North Glendale city limits, using the existing dial-a-ride vehicles to test the feasibility of MicroTransit as a service truly complementary to existing fixed-route service. As part of this demonstration, the study further recommends that the City explore possible financial participation by Los Angeles County and the City of Los Angeles, which may affect the geographic boundaries of the demonstration project.
- Add service to Burbank. The study recommends new midday service on Route 12, thus providing all-day service to the Disney Grand Central Creative Campus on Flower Street & Circle 7 Drive. The route would operate between the Glendale Transportation Center and downtown Burbank on weekdays only.
- Restructure Route 11 via Brand Boulevard. Route 11 is the Metrolink Express route that connects GTC and downtown Glendale. This recommendation streamlines this route to

serve Brand Boulevard only, since the new Route 8 will provide a direct connection to Glendale Avenue. This option provides a more direct and faster connection between GTC and Brand Boulevard.

- Restructure Route 7. Every trip on this route serves Hoover High School and Toll Middle School on a route deviation via Glenwood–Concord–Stocker. 80 percent of eastbound alightings at the Glenwood & Concord stop occur on three trips and two-thirds of westbound boardings occur on a single trip. The recommendation is to deviate only certain trips at school bell times to the schools and operate the remainder of the trips via Pacific and Stocker without a deviation. Passengers needing to travel to this location can transfer to Route 5. Adjustments to the schedules of Routes 5 and 7 at Glenwood & Concord are also warranted to meet demand.

Mid-term recommendations (over the next two to five years) include:

- Establish dedicated bus lanes on Central Avenue in both directions. Several studies and plans over the past 15 years have called for transit signal priority and bus-only lanes in Downtown Glendale. Frequent Beeline service along Central Avenue makes this corridor the preferred location for dedicated bus lanes combined with transit signal priority to speed bus service. Dedicated lanes (one in each direction) could be established along the length of Central Avenue between Stocker Street and San Fernando Road or in the most congested segment between Glenoaks Boulevard and Colorado Street. This recommendation anticipates eventual Streetcar operation on Central Avenue.
- Restructure bus service on the Foothill Corridor. A Foothill Boulevard route between Tujunga and the Gold Line Memorial Station in Pasadena would provide more coherent and structured service within the corridor. The route could operate non-stop in Pasadena to the Gold Line. An alternate western terminus for this route at Lowell Avenue or at a nearby location in Far North Glendale where a turnaround loop is possible. This recommendation involves coordination among multiple jurisdictions regarding funding for the route. The City and County of Los Angeles, the City of La Cañada Flintridge, and the City of Pasadena would all be served by the long version of the proposed route, in addition to the City of Glendale. With the new Foothill Boulevard route, Route 3 could be restructured to terminate at Pennsylvania Avenue & Foothill Boulevard. The La Cañada Shuttles (Routes 33 and 34) would continue to operate as they do today.
- Respond to NextGen changes affecting Glendale. Metro's NextGen study is still underway and its final recommendations are unknown. The City has emphasized its concerns regarding Metro's possible elimination of service in east Glendale that would leave this portion of the City unserved. The mid-term recommendation if Metro Line 183 is discontinued is to increase frequency on Route 6 along Colorado Street to a consistent 15 minutes.

- Extend Route 4 to the Glendale Transportation Center. GCC has requested this link, but demand for the Route 4 extension is uncertain. It is included among the mid-term proposals pending further analysis of travel patterns to and from the Garfield campus.

Ridership and cost impacts of the near-term and mid-term recommendations are presented in Table ES.4. Detailed impacts of each proposal are included in Chapter 6.

**Table ES.4  
Annual Impacts of Recommendations**

Route	Recommendation	Annual Impacts on				
		Ridership	Revenue	Operating Cost	Net Op. Cost	Revenue Hours
<b>NEAR--TERM RECOMMENDATIONS (within 1 year)</b>						
Total Weekday - Near-term		284,552	\$143,631	\$1,706,512	\$1,624,278	20,022
Total Saturday - near-term		41,527	\$21,281	\$442,171	\$420,890	5,007.60
Total Sunday -near term		3,441	\$1,737	\$23,723	\$21,987	268.67
<b>Annual Total - Near-Term</b>		<b>329,521</b>	<b>\$166,649</b>	<b>\$2,172,406</b>	<b>\$2,067,155</b>	<b>25,298</b>
<b>MID-TERM RECOMMENDATIONS (2-5 years)</b>						
Total Weekday - mid term		270,129	\$136,351	\$1,824,246	\$1,687,895	20,660
Total Saturday - mid term		1,220	\$616	\$6,470	\$5,854	73
Total Sunday mid-term		442	\$223	\$0	(\$223)	0
<b>Annual Total - Long-Term</b>		<b>271,791</b>	<b>\$137,190</b>	<b>\$1,830,716</b>	<b>\$1,693,526</b>	<b>20,733</b>