

2 EXISTING SYSTEM ANALYSIS

This chapter describes the characteristics and performance of existing transit service and infrastructure in Orange County. The system analysis covers the following topics:

- An overview of OCTA service, including OC Bus service, Bravo! rapid bus service, and the planned OC Streetcar
- An overview of Metrolink and Amtrak Pacific Surfliner regional rail service
- An overview of other transit operations in the county, including local shuttle services and ACCESS paratransit
- A description of major transit facilities, including Metrolink stations and park-and-rides
- A discussion of access to transit in Orange County
- A peer review comparing OCTA performance to that of other operators in neighboring and similar regions
- An analysis of OC Bus performance, including detailed descriptions of major routes

OVERVIEW OF EXISTING SERVICES

This section describes existing fixed-route transit services in Orange County, including service provided by OC Bus, Metrolink, Amtrak, and other operators.

OC Bus

OC Bus is OCTA's largest and most visible service, providing transit options throughout Orange County via 65 fixed-route bus services. Routes range from those geared toward connecting passengers to community and local destinations to those providing express services and connections to regional transit like Metrolink. In fiscal year 2015-2016, OC Bus service carried 43 million passengers. OC Bus service characteristics and performance are described in detail in the *OC Bus System Performance* section (Page 2-30). Special service categories and fares are described below.

Bravo!

OCTA's Bravo! service includes two limited-stop routes: Route 543 in the Harbor Boulevard corridor, running north-south between Fullerton and Costa Mesa; and Route 560 in the Westminster Boulevard/17th Street corridor, running east-west between Santa Ana and Cal State Long Beach. (These routes are described in detail later in this chapter.)



Bravo! is an example of partial or light bus rapid transit (BRT). The distinction between full and partial BRT or rapid bus as a transit mode is described in more detail in Chapter 5 of this document. The routes are faster and more reliable, convenient, and attractive than typical local bus service. The most notable feature is limited stop spacing, with stops as much as a mile apart serving only the busiest locations, such as transfer points and near major destinations.

Bravo! service runs relatively frequently all day on weekdays, and features *walk-up* headways, meaning buses arrive regularly enough that riders don't need to check a schedule before heading to their stop. Buses are specially branded to be more recognizable and visible. Bravo! is similar to the Metro Rapid service operated by LA Metro, with its highly recognizable red buses.

However, Bravo! service does not feature other elements of "full" BRT, such as transit priority at signalized intersections, exclusive transit lanes, or full stations (rather than stops) with more passenger amenities. The sbX Green Line in San Bernardino is a local example of full BRT.

In addition to existing Bravo! Routes 543 and 560, a third route is planned on the Route 29/Beach Boulevard corridor between Fullerton and Huntington Beach (Route 529). Additional corridors have also been considered for Bravo! service in the past, including the Route 57/Bristol Boulevard corridor between Brea and Irvine. As discussed below, existing Routes 543 and 560 intersect at the future OC Streetcar terminal in Garden Grove at the intersection of Harbor Boulevard and Westminster Avenue.

OC Streetcar

The OC Streetcar will be Orange County's first urban rail line. Scheduled to open in 2020, it will run more than four miles from the Santa Ana Regional Transportation Center, through Downtown Santa Ana, and terminate at the intersection of Harbor Boulevard and Westminster Avenue in Garden Grove. This intersection with Bravo! Routes 543 and 560 will become a key transit connection point.

The OC Streetcar is the first fixed-guideway feeder connection to the Metrolink rail spine funded through Project S ("Transit Extensions to Metrolink") as part of the 2006 Measure M sales tax renewal. The \$298 million project was recently awarded a matching federal grant and is now in final design and engineering.

Figure 2-1 OC Streetcar Route



The OC Streetcar will be a modern streetcar line like those in Portland (Oregon), Seattle, and Tucson. Modern streetcars are larger, provide a smoother ride, and are typically more comfortable than buses; however, most are single cars and are significantly smaller than light rail trains. They also typically operate in mixed traffic, as the OC Streetcar will outside of the PE ROW, in its segment including Downtown Santa Ana. Outside of Downtown Santa Ana, stops will be spaced relatively far apart—more than a half-mile on average, compared to roughly a quarter-mile downtown—to allow greater speed and reliability than local bus service. Stops will include shelters and other amenities.

The OC Streetcar is envisioned as the possible first leg of a longer line or streetcar network. Another streetcar route has been studied between the ARTIC station in Anaheim and the Anaheim Resort district, including Disneyland. That and other possible transit improvements in the Harbor Boulevard corridor are currently under consideration as part of the Central Harbor Boulevard Transit Corridor Study.

Seasonal Service

In addition to regular fixed-route service, OC Bus provides seasonal service to major events and destinations, including the Orange County Fair, Angels baseball games, and Laguna Beach. This allows OCTA to explore discretionary rider markets. Provision of such service is dependent on funding availability.

In 2016, seasonal express service to the Orange County Fair connected to nine park-and-ride locations on Friday, Saturday, and Sunday in July and August during fair hours. In 2016, the OC Fair Express carried more than 94,000 riders, all of whom received a \$9 discount on \$12 admission.

In 2016, express service from the Golden West Transportation Center to Angels baseball games operated for weekday home games during the season. Angels Express bus riders were eligible to purchase tickets to select games at a 50 percent discount. The OC Fair and Angels Express service are examples of service funded by MSRC grants from the Air Quality Management District (AQMD).

During summer 2016 OC Bus operated the Laguna Beach Summer Breeze on July and August weekends, connecting the Laguna Canyon Road parking lot in Irvine to the Laguna Beach bus station. The service was funded by the City of Laguna Beach.

Figure 2-2 Examples of OCTA Seasonal Service



Fares

Current OCTA fares in major categories are shown in Figure 2-3. Like many other Southern California transit operators, OCTA does not provide free transfers to connecting buses. Instead, it sells discounted day passes that allow unlimited travel. Previously \$5, OCTA’s day pass was recently reduced to \$4—equivalent to the cost of two trips—as part of a six-month promotion extending through April 2017.

Figure 2-3 Summary of OCTA Fares (Effective Feb 2017)

	Adult	Senior/Disabled
Local		
Cash Fare	\$2	\$0.75
Day Pass	\$4*	\$1.50
30-Day Pass	\$69	\$22.25
OC Express (intra-county)		
Cash Fare	\$4	\$3.50
Day Pass	\$8	\$7
30-Day Pass	\$120	\$105
Express (inter-county)		
Cash Fare	\$7	\$6
Day Pass	\$14	\$12
30-Day Pass	\$210	\$180

* Promotional fare through April 2017

In addition to discounted fares for those 60 or older, people with disabilities, and Medicare cardholders, OCTA offers discounted 30-day passes for youth ages 6 to 18 for \$40. The agency also offers a variety of discounted College Passes for students at participating colleges and U-Passes for students and employees of Cal State Fullerton, UC Irvine, and Chapman University (rates vary by campus). Finally, OCTA offers discounted Perk Passes through employers good for \$1.25 trips up to a maximum cost of \$69 per month.


OCTA recently introduced mobile ticketing via an OC Bus smartphone app. Using the app, riders load a pass or one-way cash fare onto their phone, then activate their ticket or pass from within the app and show it to the bus operator upon boarding. Paper passes are still

Costs

OCTA fares have risen in recent years, from \$1.25 for a basic cash fare to \$1.50 in 2009 and to \$2 in 2013. Compared to driving, the cost to ride transit in Orange County is a bargain, even with recent fare increases—between the cost of buying or leasing a car, gas, maintenance, insurance and fees, AAA estimates that driving costs between \$7,540 and \$9,520 per year, and that is a nationwide estimate that doesn’t reflect the higher costs of driving in California. This 60 percent increase in the base fare over just four years has no doubt played a role in OCTA’s declining ridership (see Chapter 4, Recent Trends in Transit).

sold online and at more than 100 retailers, including major supermarket chains. Installation of electronic readers is underway now.

OCTA maintains interagency agreements with Metro, Long Beach Transit, Omnitrans, Long Beach Transit, and the Riverside Transit Agency that provide free transfers for passengers traveling across county lines. The agreement also gives Metrolink/Amtrak riders free trips to and from Metrolink stations.



Passenger Information

Historically, U.S. transit agencies informed the public about their services by publishing printed maps, schedules, and rider guide brochures and booklets (such as the OCTA Bus Book shown here); by staffing phone hotlines; by providing limited information at stops on “flag signs” with route numbers and destinations; and, occasionally, by posting maps and schedules at stops. More recently, agencies have begun to use websites and social media to distribute additional information.

OCTA is currently updating its passenger information program to make use of new technologies. In 2016, the agency introduced the OC Bus smartphone app (available on both iOS and Android platforms), which features mobile ticketing. Through its open data initiative, the agency has made real-time arrival and other information available to app developers.

Additionally, OCTA service has been given a new look and identity, with the intent of making it more modern and attractive. In 2015, OCTA bus service was rebranded as “OC Bus”—this includes local bus, OC Express (intra-county express) and Express (inter-county express) routes, as well as the agency’s “Bravo!” rapid bus service. The upcoming Santa Ana-Garden Grove streetcar project will be branded as “OC Streetcar.”

Metrolink and Amtrak

Orange County is one of six coastal counties served by the 351-mile LOSSAN Rail Corridor linking San Diego, Los Angeles, and San Luis Obispo. The corridor is the second busiest intercity rail corridor in the U.S. (second only to the northeast corridor that connects Boston and Washington, D.C.), serving 7.2 million people annually with Metrolink, Coaster, and Amtrak services. The LOSSAN Rail Corridor Agency is a joint powers authority staffed by OCTA.

Both Amtrak and Metrolink serve Orange County along the LOSSAN Corridor. Amtrak’s Pacific Surfliner connects the Southern California coast between San Luis Obispo and San Diego. Metrolink’s commuter rail serves the Los Angeles metropolitan area, connecting Los Angeles, Orange, Riverside, and Ventura counties. The Orange Line runs along the LOSSAN Corridor. The 91 Line provide service to Riverside and Inland Empire-Orange County Line provide service to San Bernardino and Riverside, which is to the east of Orange County.

Orange County is home to 12 Metrolink stations, 11 of which are on the LOSSAN Corridor, and will be adding a station to the system in Placentia in 2019 that will serve the 91 Line. Of these stations, five are shared by Metrolink and Amtrak. The joint Rail 2 Rail program allows Metrolink Monthly Pass holders along the Orange Line to take advantage of overlapping services: pass

holders have access to Amtrak Pacific Surfliner trains at no additional cost between the station pairs identified on their pass. There were more than 2.8 million boardings at Orange County stations during the 2015-2016 fiscal year.

The Irvine and Santa Ana stations have the highest level of service among Orange County stations, with 69 daily trains. Service at the Irvine and Santa Ana stations runs from 4:15 a.m. to 11:09 p.m. and 4:27 a.m. to 11:01 p.m., respectively. Service averages two trains per hour in each direction and as many as three trains per hour during peak times. San Clemente Pier has the least service, with Amtrak providing two daily trips in each direction.

Figure 2-4 Train Service by Station (Weekday)

Station	Shared	Northbound Trips		Southbound Trips	
		Metrolink	Amtrak	Metrolink	Amtrak
Buena Park	No	14	-	14	-
Fullerton	Yes	19	12	19	12
Anaheim	Yes	15	12	14	12
Orange	No	23	-	22	-
Santa Ana	Yes	23	12	22	12
Tustin	No	23	-	22	-
Irvine	Yes	23	12	22	12
Laguna Niguel/Mission Viejo	No	21	-	20	-
San Juan Capistrano	Yes	8	12	8	12
San Clemente	No	8	-	8	-
San Clemente Pier	No	-	2	-	2
Anaheim Canyon	No	8		8	

Metrolink and Pacific Surfliner fares are distance-based, but generally higher than bus fares. A one-way fare between Fullerton and Irvine is currently \$7.75 on Metrolink and \$11 on the Surfliner¹. Metrolink offers discounted passes.

Performance

The Irvine Station generates the most ridership in Orange County, with 583,345 boardings during fiscal year 2015-2016. Of these boardings, nearly two-thirds were on Metrolink. Fullerton’s station also served more than half a million passengers, with nearly 30 percent of those riding Amtrak Pacific Surfliner. Ridership by station is shown in Figure 2-5.

As shown in Figure 2-6, Irvine is part of three of the highest-ridership station pairs in the county. Unsurprisingly, there is also significant travel to Los Angeles.

¹ As of September 2016, for a weekday trip purchased two weeks in advance.

Figure 2-5 Metrolink/Amtrak Station Boardings



Figure 2-6 Highest Ridership Station Pairs in Orange County (LOSSAN) – Third Quarter of 2016 Fiscal Year

Station Pair	Ridership
Irvine – Los Angeles	38,274
Irvine – San Diego	35,446
Fullerton – Los Angeles	32,306
Irvine – Solana Beach	30,374
Anaheim – Los Angeles	26,349

Anaheim Resort Transit

Anaheim Resort Transit (ART) serves the resort guests, employees, and residents of Anaheim, providing connections to major attractions such as Disneyland, The Outlets at Orange, ARTIC, South Coast Plaza, Knotts Berry Farm, and several area hotels. Routes are operated every day of the week. There were nearly 9 million ART boardings during the 2015 fiscal year.

Daily passes start at \$5 for adults and \$2 for children. Three-day (\$12/\$3), five-day (\$20/\$5), 15-day (\$45/\$10), and 30-day passes (\$55/\$20) are also available. Passes may be purchased on-board, via the ART app, at ARTIC or ticketing kiosks and at a variety of tourist locations around Anaheim. OCTA accepts transfers from ART bus routes 1-20 at any stop where OCTA and ART buses connect directly. ART accepts transfers from a total of 24 OC Bus routes at stops where buses connect directly.

Figure 2-7 ART Routes

Routes	Frequency (Minutes)*	Span
1/2 – Harbor Blvd. Line	20	6:14 a.m. – 11:30 p.m.
3/4/5 – Grand Plaza Line	20	6:14 a.m. – 11:30 p.m.
6/7/8 – Hotel Circle Clementine Line	20	6:13 a.m. – 11:30 p.m.
9 – Katella Line	20	6:15 a.m. – 11:30 p.m.
10 – Downtown Packing District Line	30	6:13 a.m. – 11:30 p.m.
11 – Ball Road Line	20	6:10 a.m. – 11:30 p.m.
12 – Manchester Ave Line	20	6:14 a.m. – 11:30 p.m.
14/15 – ARTIC Sports Complex Line	20	6:15 a.m. – 11:40 p.m.
16 – Orange Line	60	6:16 a.m. – 11:00 p.m.
17 – Canyon Line**	4 WB a.m. trips; 3 EB p.m. trips	5:55 a.m. – 5:48 p.m.
18 – Buena Park Line	60	9:00 a.m. – 9:00 p.m.
19 – Extension of Canyon Line	60	6:00 a.m. – 11:00 p.m.
19 – Santa Ana Line	120	10:00 a.m. – 10:30 p.m.
20 – Toy Story Line	10	6:20 a.m. – 11:30 p.m.
22 – Costa Mesa/South Coast Plaza Line***	1 SB and 2 NB a.m. trips; 1 SB and 3 NB p.m. trips (4 NB p.m. trips on weekends and Holidays)	7:45 a.m. – 10:30 p.m.

*ART routes operate at identified frequency daily. Only routes 17 and 22 have detailed stop tables with differing frequencies.

**Trips scheduled to sync with Metrolink services at Anaheim Canyon Station

***Only operates morning and evening services between Disneyland and South Coast Plaza

Community Shuttles and Circulators

Irvine Shuttle (iShuttle)

The Irvine Shuttle provides weekday access to major employment destinations from local train stations. Routes 400A and 401B serve the Tustin Metrolink station and the Irvine Business Complex, while routes 402C and 403D connect passengers to the Irvine station and Irvine Spectrum areas. Routes are designed around Metrolink and Amtrak schedules to provide commuters and residents efficient service to and from the train stations. For peak period trips, shuttle services depart stations within 5 to 10 minutes of train arrival, and shuttles drop off passengers within 5 to 10 minutes of train departure.

Annual ridership for the 2016 fiscal year on Irvine Shuttle services ranged from 50,944 for Route 403D to 75,228 for Route 401B. Fares are \$1, but riders may present a valid Metrolink pass or ticket to ride the shuttle for free.

Previously operated by the City of Irvine, the iShuttle has been operated by OCTA since July 2016.

Laguna Beach Municipal Transit Lines

Laguna Beach Municipal Transit Lines (LBMTL) operated by the City of Laguna Beach, runs two bus routes providing local circulation within Laguna Beach. The North Laguna route links the beaches to the north end of town, while the Monarch Bay & Ritz route travels along the Pacific Coast Highway (PCH) to various commercial and recreational locations. These bus services operate from 6:30 a.m. to 6:30 p.m. on weekdays, and from 9:20 a.m. to 6:30 p.m. on Saturdays. Fares are \$0.75 for adults and \$0.30 for children, senior citizens, Medicare card holders, and those with disabilities. OCTA day passes are valid for one transfer at overlapping stops.

LBMTL also operates a summer trolley service to connect visitors to various attractions. The trolleys travel along PCH and Laguna Canyon Road every 20 minutes from 9:30 a.m. to 11:30 p.m. The trolley connects riders to destinations along the beach and the Gallery Row District, Canyon Arts District, Hip District, and Pearl Street District. La Habra Express

La Habra Express

The La Habra Express Route 103B serves the community of La Habra on weekdays, connecting riders to St. Jude Medical Center, the Fullerton Transportation Center, and other destinations within the city. Passengers enjoy complimentary Wi-Fi and access to USB charging ports. More than 30,000 passengers used the La Habra Express during the 2016 fiscal year.

Funded by OCTA's Measure M, the service is currently operated by OCTA. The City of La Habra subsidizes fares to \$1 for passengers. OCTA passes are accepted. Route 103B) runs every 65-75 minutes from 6:10 a.m. to 6:26 p.m.

Mission Viejo Circulator

OCTA operates the Mission Viejo Circulator service to connect high schools, medical centers, shopping centers, and the Laguna Niguel/Mission Viejo train station. The service is a partnership between OCTA and the City of Mission Viejo, funded by Measure M. Fares are \$2, and Metrolink and Amtrak tickets are honored as full fare for passengers traveling to and from the station.

The circulator (Route 182) runs every 30-65 minutes from 6:00 a.m. to 6:24 p.m.

Westminster Little Saigon Circulator

Since fall 2016, OCTA operates the Westminster Little Saigon Circulator, a one-way loop connecting Magnolia Street, Bolsa Avenue, Brookhurst Street, and Bishop Place. Funded through OCTA's Measure M, the service provides a free ride to local shops, restaurants, schools, and other destinations to reduce traffic in the popular Little Saigon area. The circulator (Route 164) runs every 30-65 minutes from 9:47 a.m. to 6:01 p.m.

Other Transportation Services

San Clemente Rideshare

San Clemente and OCTA have partnered to provide a local rideshare service funded by Measure M. The service operates daily from 6 a.m. to 6 p.m., providing access to destinations such as the pier, San Clemente High School, Rancho Clemente Business Park, Walmart, Target, and Sprouts.

To use the service, residents request a ride through the Lyft app at or near a former OC Bus Route 191 or 193 stop (routes were discontinued as part of OC Bus 360°). Passengers pay \$2 per ride, and up to \$9 of additional fare will be subsidized. Passengers are responsible for additional costs over \$11.

Surf City Shuttle

Huntington Beach operates a summer shuttle serving various destinations around the city. In 2016, the service operated on weekends from mid-June to early September, with service from 10 a.m. to 10 p.m. on Friday, and 10 a.m. to 8 p.m. on Saturday and Sunday. There are five stops along the route:

- Downtown – Shorebreak Hotel on 5th Street
- Sunset Beach – Peter's Landing on PCH/Anderson Street
- Bella Terra – Beach Boulevard on Huntington Beach Mall behind Century Theatre
- Beach Promenade – Beach Boulevard/Atlanta Avenue
- Pacific City – Pacific View behind Lot 579

The shuttle operates as a bi-directional loop (except on Friday) along the Pacific Coast Highway, Warner Avenue, and Beach Boulevard. Passengers can track the shuttle's location in real-time on surfcityusashuttle.com.

OC Vanpool

OC Vanpool connects people with similar destinations and work schedules for pick-up at a common location. Costs associated with the vehicle—including gas, insurance, and rentals—are divided among the seven to 15 participants, reducing an individual's commute costs by as much as 75 percent compared to driving alone.

OCTA provides an incentive of \$400 per month, per vanpool (applied to the rental fee), as well as assistance to employers and commuters to form vanpools. To qualify, vanpools must set workplace destinations in Orange County, show 70 percent occupancy initially (and 50 percent thereafter), accept riders from nearby destinations, and report ridership monthly via OCTA's database.

There are approximately 500 vanpools currently operating in Orange County, connecting passengers to over 85 employers. OCTA's vanpool website provides tools for those interested joining or starting a vanpool.

ACCESS Service

ACCESS is OCTA's complementary Americans with Disabilities Act (ADA) paratransit service for people who are unable to use fixed-route bus services. As required under ADA, service is provided "curb to curb" (and in some cases "door to door") within three-quarters of a mile of fixed routes. Additional service is also provided to and from Regional Center of Orange County (RCOC) programs, and subsidies are provided to nonprofits in exchange for group trips diverted from ACCESS. ACCESS service is provided under contract by MV Transportation.

Passengers must be certified eligible for the service based on ADA criteria related to physical and cognitive ability, and may be accompanied by a personal care attendant or one or more fare-paying companions, depending on space limitations. Passengers must also request a trip at least one day (and up to three days) in advance. OCTA accepts requests from 7 a.m. to 5 p.m. on weekdays and 8 a.m. to 5 p.m. on weekends and holidays. Service hours are comparable to those of local bus services.

OCTA ACCESS offers two types of ADA service:

- Standard curb-to-curb service, which requires trips to be requested in advance (\$3.60 per one-way trip)
- Subscription service, which schedules recurring trips, such as a commute trip, without requiring an advance request (\$3.60 per one-way trip)

OCTA also offers same-day taxi service, available from 7 a.m. to 8 p.m. (\$3.60 for up to roughly a five-mile trip, or a standard fare of \$15.40, after which costs are paid by the passenger), to ACCESS-eligible passengers. Some regular ACCESS trips are also served using taxis, including peak-period "overflow" trips, early and late-night trips, trips on Saturday after 3 p.m., and Sunday trips.

OCTA ACCESS works to accommodate requests. However, requested times may need to be adjusted depending on demand. ACCESS may suspend passengers from using the service if they repeatedly fail to show up for rides, or cancel rides without sufficient notice.

Performance

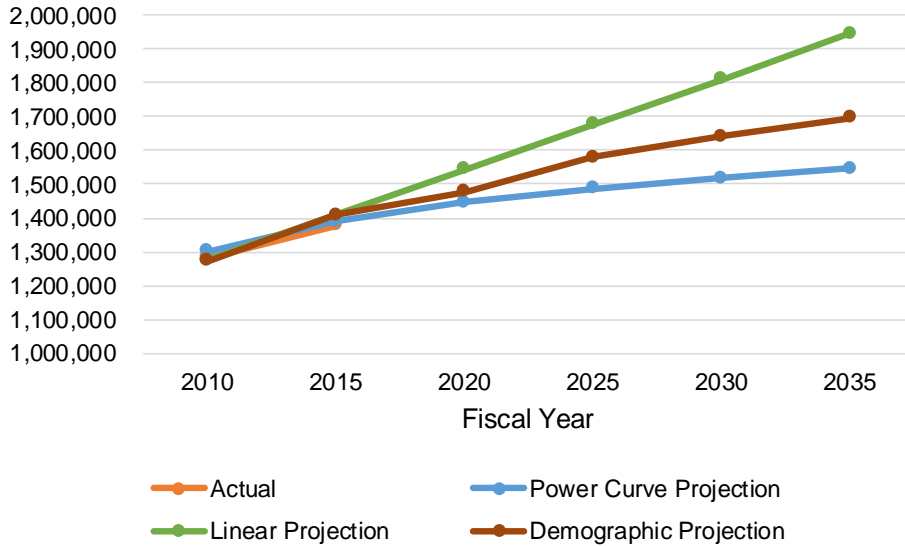
ACCESS service has accounted for an increasingly large share of OCTA operating costs in recent years, increasing from 10 percent of total costs for all transit modes (including fixed-route, commuter rail and vanpool in addition to paratransit) in FY 2008 to 19 percent in FY 2015. Cost per hour of revenue service for paratransit has increased by 76 percent over that period, and while ridership has increased 14 percent, cost per boarding has increased by 73 percent. In terms of cost per boarding, ACCESS is by far the most expensive mode for OCTA to operate, at \$43.28 in FY 2015, compared to \$19.63 for Metrolink, \$6.18 for OC Vanpool and \$5.15 for OC Bus. In FY 2015 ACCESS accounted for about 3 percent of all OCTA boardings, up from about 2 percent in FY 2008.

ACCESS use is projected to continue to increase, in part due to the aging of the Baby Boomer generation (although analysis of August 2016 ridership found that 72 percent of trips were made by those under the age of 65, a reminder that paratransit serves both older persons and persons

with disabilities). Projections developed for this study are illustrated in Figure 2-8 below. The methodologies are based on both statistical analysis and demographic forecasts. They project an increase in ridership of between 12 and 41 percent between Fiscal Years 2015 and 2035.

Figure 2-8 Three Projections of ACCESS Demand

Annual Unlinked Passenger Trips



Regional Connections

Los Angeles Metro

OCTA has nine routes that provide service in Los Angeles County and offer connections to LA Metro routes (see 9). LA Metro operates Express Route 460 connecting Downtown Los Angeles to Disneyland and to 10 OC Bus routes within Orange County: 21, 25, 26, 29, 33, 35, 43, 83, 430, and 543.

Figure 2-9 OCTA-Metro Connections in Los Angeles County

OCTA Route	Connecting Metro Routes
1	577X
30	62, 130, 460, 577x
38	62, 460
42	62
46	460
50	460, 577x
60	577x
560	577x
701	45, 81, 108, 115, 358, 745
721	45, 81, 108, 115, 120, 358, 460, 745, Green Line

Metro accepts OC Bus one-day and 30-day bus passes from passengers transferring to inbound Metro routes 62 and 460.

OC Bus accepts Metro Tap cards on nine routes that serve Los Angeles County at stops where OC buses and Metro buses connect directly. Additionally, transfers are accepted from Metro 460 passengers at the following locations:

- Fullerton Park-and-Ride
- Disneyland
- Magnolia Avenue stops between Orangethorpe Avenue and La Palma Avenue
- La Palma Avenue stops between Magnolia Avenue and Beach Boulevard
- Beach Boulevard stops between La Palma Avenue and La Mirada Avenue

Foothill Transit

Foothill Transit serves the San Gabriel and Pomona Valleys of Los Angeles County. Service overlaps with OC Bus routes, providing connections at the following locations:

- Beach Boulevard/La Habra Boulevard – OC Bus routes 29, 129, and 143 connect with Foothill Transit 285, which takes passengers to destinations such as Whittier Hospital and Puente Hills Mall
- Brea Mall – OC Bus routes 57, 129, 143, and 153 connect to Foothill Transit 286 with service to Diamond Bar and Pomona

Foothill Transit accepts OCTA monthly passes and day passes at these transfer locations.

Riverside Transit Agency

Riverside Transit Agency (RTA) provides service to western Riverside County. Thirty-six fixed-route bus services connect local communities while eight CommuterLink express routes connect to regional transit facilities, shopping destinations, and business parks.

CommuterLink Route 216 provides access to Orange County, connecting the Riverside Downtown Transit Terminal to the Village at Orange for \$3. Route 216 connects to OC Bus routes 24, 42, 46,

50, 71, 167, and 213. Additionally, RTA Route 15 connects passengers from Downtown Riverside to the La Sierra Metrolink station. OC Bus one-day and 31-day passes are accepted on segments of RTA Route 216 in Orange County (for base fare only).

Long Beach Transit

Long Beach Transit (LBT) serves Long Beach, Lakewood, and Signal Hill. LBT operates 34 bus routes that connect to transit services in neighboring communities, including 15 routes that connect to eight OC Bus routes (see 10). LBT passengers can purchase a \$0.50 interagency transfer to transfer to OC Bus services. Though OC Bus does not provide interagency transfers, LBT accepts OCTA day passes for one ride.

Figure 2-10 OCTA-LBT Connections in Los Angeles County Serving OCTA Routes

OCTA Route	Connecting LBT Routes
1	81,91, 92, 93, 94, 121, 131, 171, ZAP 96
30	172, 173, 192
38	173, 191
42	101, 102, 104, 131, 171, 173
46	102, 104
50	81,91, 92, 93, 94, 171, 173, ZAP 96
60	81,91, 92, 93, 94, 121, 171, ZAP 96
560	81, 91, 92, 93, 94, 121, 171, ZAP 96

North County Transit District

The North County Transit District (NCTD) annually serves approximately 12 million passengers in north San Diego County. NCTD operates fixed-route and rapid-bus service throughout the region, commuter rail service connecting Oceanside to Downtown San Diego, and light rail service linking Oceanside to Escondido. It also operates paratransit and on-demand services in certain areas.

OC Bus Route 1 connects passengers to NCTD route 395, linking San Clemente to Oceanside. OCTA day passes are valid for one boarding on NCTD route 395. Additionally, Metrolink OC Line passengers possessing a valid Metrolink pass may use NCTD routes 101, 302, 303, 313, 318, 392, and Sprinter (light rail) services at no additional charge.

TRANSIT FACILITIES

This section describes transit hubs in Orange County. These primarily consist of Metrolink stations, OCTA park-and-rides, and off-street bus transfer centers. These facilities serve as a major point of connectivity between transit routes and between transit and other modes. They are owned by various entities, including OCTA, cities and Caltrans.

Figure 2-11 Transit Hubs

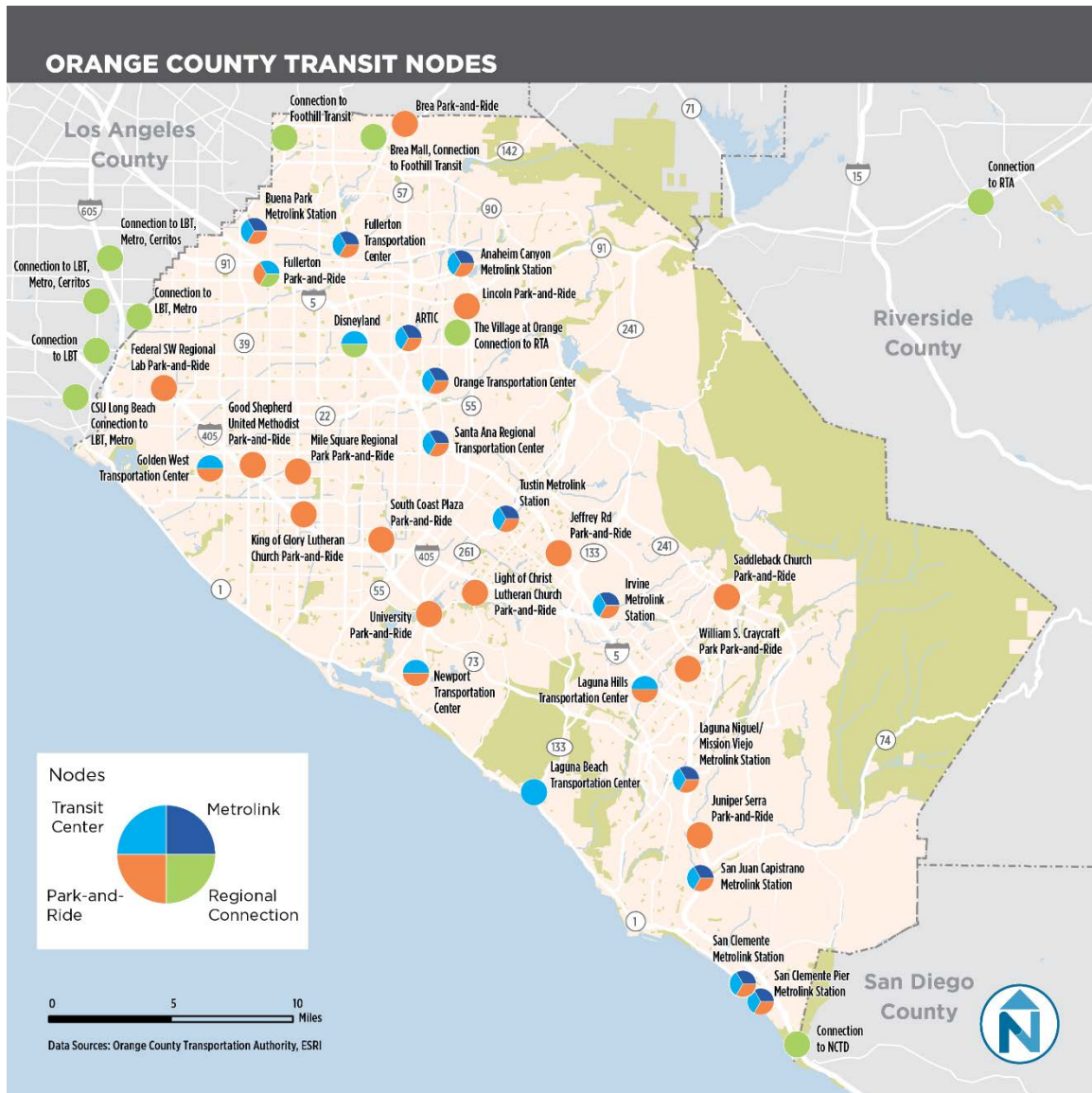
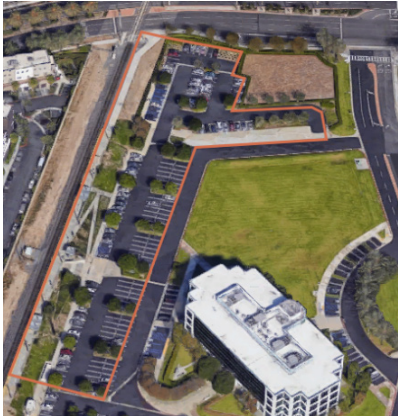

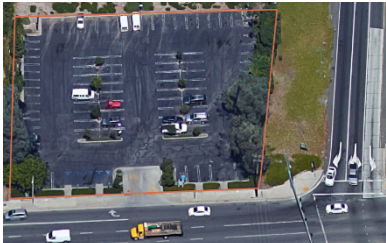
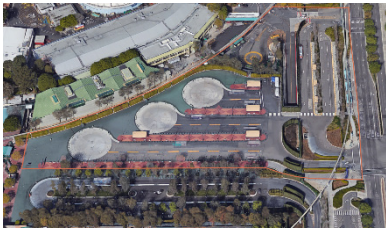






Figure 2-12 Orange County Capital Facilities Matrix

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Anaheim Canyon Metrolink Station</p> 	●	●	●		144	4	-	<ul style="list-style-type: none"> ▪ Bicycle parking ▪ Shelters ▪ Seating ▪ 16 bicycle lockers
<p>Anaheim Regional Transportation Intermodal Center (ARTIC)</p> 	●	●	●		1,031	13	-	<ul style="list-style-type: none"> ▪ Bicycle parking ▪ 24 bicycle lockers ▪ Restrooms ▪ Indoor meeting rooms ▪ Wi-Fi and charging stations
<p>Brea Park-and-Ride</p> 			●		95	-	-	<ul style="list-style-type: none"> ▪ Bicycle parking ▪ Motorcycle parking

EXISTING SYSTEM ANALYSIS

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
Buena Park Metrolink Station 	●	●	●		302	4	-	<ul style="list-style-type: none"> Restrooms Sheltered seating 6 bicycle lockers
Disneyland 		●		●	-	4	-	<ul style="list-style-type: none"> Sheltered seating Pedestrian esplanade Unsheltered seating
Federal SW Regional Lab Park-and-Ride 			●		66	-	2	
Fullerton Park-and-Ride 		●	●	●	800	14	5	<ul style="list-style-type: none"> Restroom Sheltered seating Transit system information



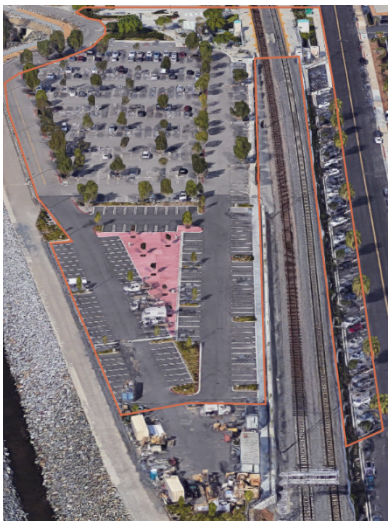
Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Fullerton Transportation Center</p> 	●	●	●		1,321	6	3	<ul style="list-style-type: none"> ▪ Sheltered seating ▪ Bicycle parking ▪ 48 bicycle lockers ▪ Transit system information
<p>Goldenwest Transportation Center</p> 		●	●		330	10	2	<ul style="list-style-type: none"> ▪ Unsheltered and sheltered seating ▪ Restrooms ▪ Bicycle parking ▪ Transit system information
<p>Good Shepherd United Methodist Park-and-ride</p> 			●		42	-	1	


EXISTING SYSTEM ANALYSIS




Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Irvine Station</p> 	●	●	●		1,993	8	3	<ul style="list-style-type: none"> ▪ Bicycle parking ▪ 54 bicycle lockers ▪ Restrooms ▪ Indoor waiting/seating area
<p>Jeffrey Road Park-and-Ride</p> 			●		225	-	-	

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Junipero Serra Park-and-Ride</p> 			●		113	-	2	
<p>King of Glory Lutheran Church Park-and-Ride</p> 			●		36	-	-	

EXISTING SYSTEM ANALYSIS

Facility	MetroLink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
Laguna Beach Transportation Center 		●			-	7	-	<ul style="list-style-type: none"> Unsheltered and sheltered seating Restrooms Bicycle parking Transit system information
Laguna Hills Transportation Center 		●	●		161	12	3	<ul style="list-style-type: none"> Unsheltered and sheltered seating Restrooms Bicycle parking Transit system information
Laguna Niguel/Mission Viejo MetroLink Station 	●	●	●		476	-	-	<ul style="list-style-type: none"> Shelter Unsheltered seating 20 bicycle lockers

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Light of Christ Lutheran Church Park-and-Ride</p> 			●		100	-	2	
<p>Lincoln Park-and-Ride</p> 			●		59	-	2	

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Mile Square Regional Park Park-and-Ride</p> 			●		56	-	2	
<p>Newport Transportation Center</p> 		●	●		76	9	-	<ul style="list-style-type: none"> ▪ Sheltered seating ▪ Restrooms ▪ Bicycle parking ▪ Transit system information
<p>Orange Transportation Center</p> 	●	●	●		375	3	-	<ul style="list-style-type: none"> ▪ Unsheltered seating ▪ Shelter ▪ Bicycle parking ▪ 10 bicycle lockers ▪ Restrooms

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Saddleback Church Park-and-Ride</p> 			●		62	-	-	
<p>San Clemente Station</p> 	●	●	●		150	-	3	<ul style="list-style-type: none"> ▪ Pedestrian shelter
<p>San Clemente Pier Station</p> 	●	●	●		144	-	1	<ul style="list-style-type: none"> ▪ Restrooms

EXISTING SYSTEM ANALYSIS

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>San Juan Capistrano Metrolink Station</p> 	●	●	●		172	-	2	<ul style="list-style-type: none"> ▪ Restroom ▪ Sheltered seating
<p>Santa Ana Regional Transportation Center</p> 	●	●	●		719	10	2	<ul style="list-style-type: none"> ▪ Indoor waiting/seating area ▪ Restrooms ▪ 15 bicycle lockers ▪ 12 additional bicycle stalls in bike hut
<p>South Coast Plaza Park-and-Ride</p> 			●		50	-	-	

Facility	Metrolink	Transit Center	Park-and-Ride	Regional Connection	Parking Spaces	Bus Bays	Adjacent Bus Stops	Other Amenities
<p>Tustin Metrolink Station</p> 	●	●	●		823	8	-	<ul style="list-style-type: none"> ▪ Sheltered seating ▪ Bicycle parking ▪ 20 bicycle lockers
<p>University Park-and-Ride</p> 			●		40	-	-	
<p>William S. Craycraft Park Park-and-Ride</p> 			●		38	-	2	

TRANSIT ACCESSIBILITY

To function as efficiently and effectively as possible, transit must be integrated into the larger transportation network. This means providing high-quality, multimodal access to stops and stations. No transit trip takes place solely aboard buses or trains, or at stops or stations; each trip includes first-/last-mile connections from origins and to destinations.

Pedestrian

Most trips in Orange County are made by private car, but most trips to transit stops and stations are made on foot. In OCTA's most recent passenger survey, 81 percent of respondents walked to their stops, and 75 percent said they would walk from the bus to their final destination. (The proportion of trips started by walking varies depending on context: most access to OCTA park-and-rides is by car, and train stations attract travelers from farther away, including those making connections from other transit services, biking, or driving longer distances.)

Walking to and from bus stops in Orange County can be difficult due to the largely auto-oriented nature of the built environment. This difficulty manifests itself in several ways:

- The street network in much of the county, particularly in South County where there is a limited street grid, is generally not as well connected as in more traditional walkable neighborhoods. The result is indirect pedestrian pathways and more out-of-direction travel. (This also impacts bus routes themselves, as fewer direct paths are available for buses to take between neighborhoods; instead, South County streets are designed primarily to deliver cars to the freeway.)
- There are long distances between marked crossings on major streets, and long waits to cross at signals.
- The pedestrian experience is negatively impacted by speeding traffic, vehicle fumes, residential noise walls that create barriers, large parking lots fronting the sidewalk, and missing or poor-quality sidewalks.
- Similarly, pedestrian safety is compromised by high speed traffic at pedestrian crossings and by intersection designs allowing for high-speed turns.

Figure 2-13 Typical Pedestrian Conditions in Orange County (Bristol, Santa Ana)



Source: Nelson\Nygaard

Bicycle

OCTA provides two bicycle racks on the front of every bus (available on a first-come, first-served basis), and allows folding bikes on board. The county's bikeway network, created and maintained through a partnership between OCTA and local cities, features more than 1,000 miles of designated bike routes. The quality of the bike facilities varies. In the northernmost part of the county, some routes consist of cyclists and motorists sharing lanes which are marked with "sharrows" rather than providing dedicated bike lanes or paths. Many arterial and collector streets, particularly in South County, do feature on-street bike lanes. Among the county's off-street bike paths is the Santa Ana River Trail, which runs north-south across the county, intersecting a number of bus routes along the way.



Auto

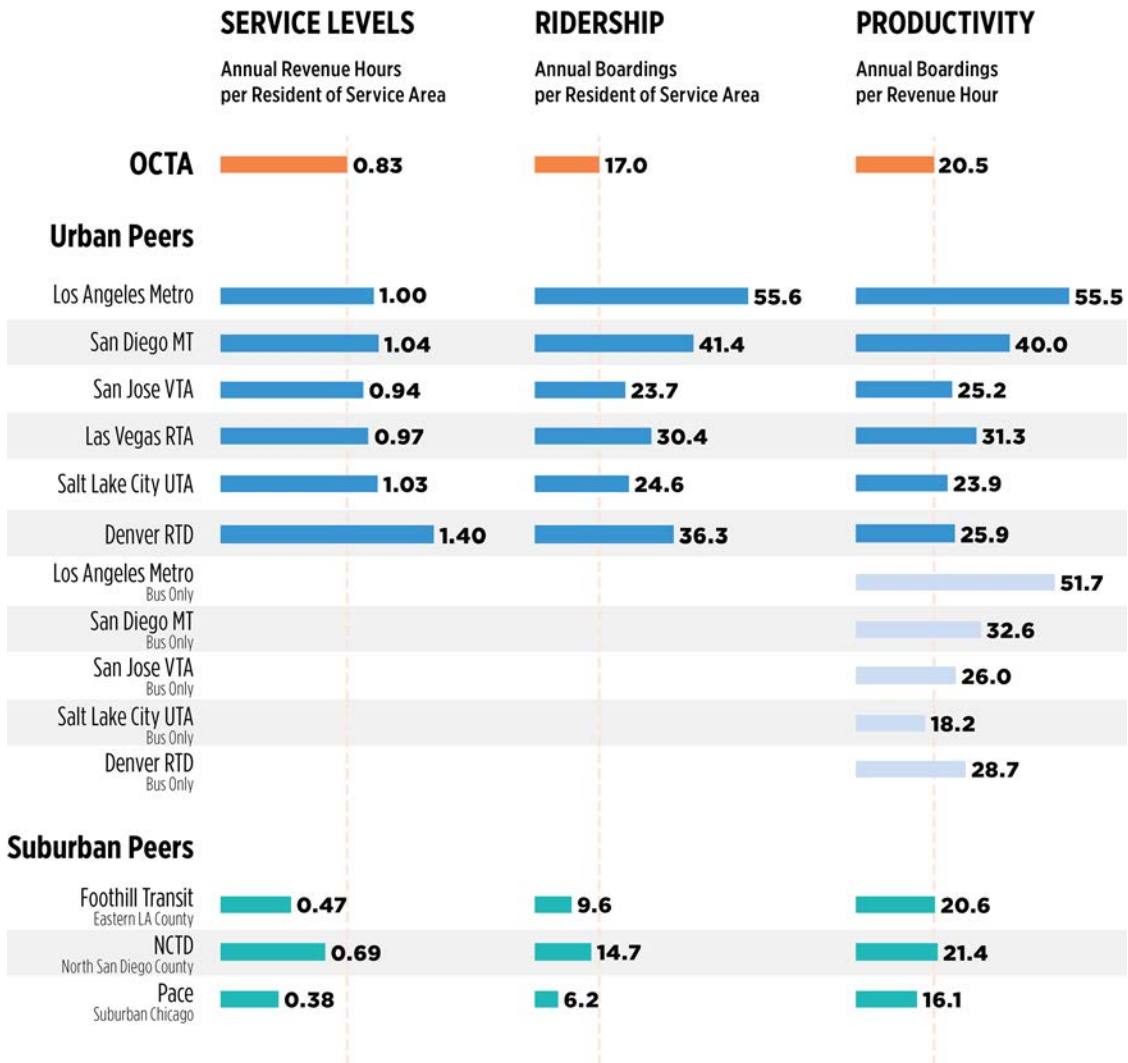
While most bus stops do not have vehicle parking, OCTA and others maintain a number of park-and-ride facilities (see the "Facilities" section in this chapter). These lots may include designated pick-up and drop-off areas for motorists, taxis, and more recently ride-hailing services like Uber and Lyft. They also provide reserved parking for carpools.

PEER REVIEW

Figure 2-14 illustrates how transit service and use in Orange County compares to transit service and use in peer cities and regions, including metropolitan areas in the Southwest as well as other large but primarily suburban areas in Southern California and elsewhere. The data is from 2014, the most current year available in the National Transit Database. Each revenue service hour is a single bus or train picking up and dropping off passengers for one hour.

As the charts indicate, OCTA generally lags behind its more urban peers in the Southwest (Los Angeles, San Diego, San Jose, Las Vegas, Salt Lake City, and Denver) when it comes to service productivity, as expressed by numbers of riders boarding per service hour. It does, however, keep pace with suburban operators in the San Gabriel Valley, northern San Diego County, and suburban Chicago. In terms of both annual boardings per person living in its service area and amount of service offered (service hours per capita), OCTA falls in between its suburban and urban peers.

Figure 2-14 Service Levels, Ridership, and Productivity for OCTA and Peer Agencies (2014)

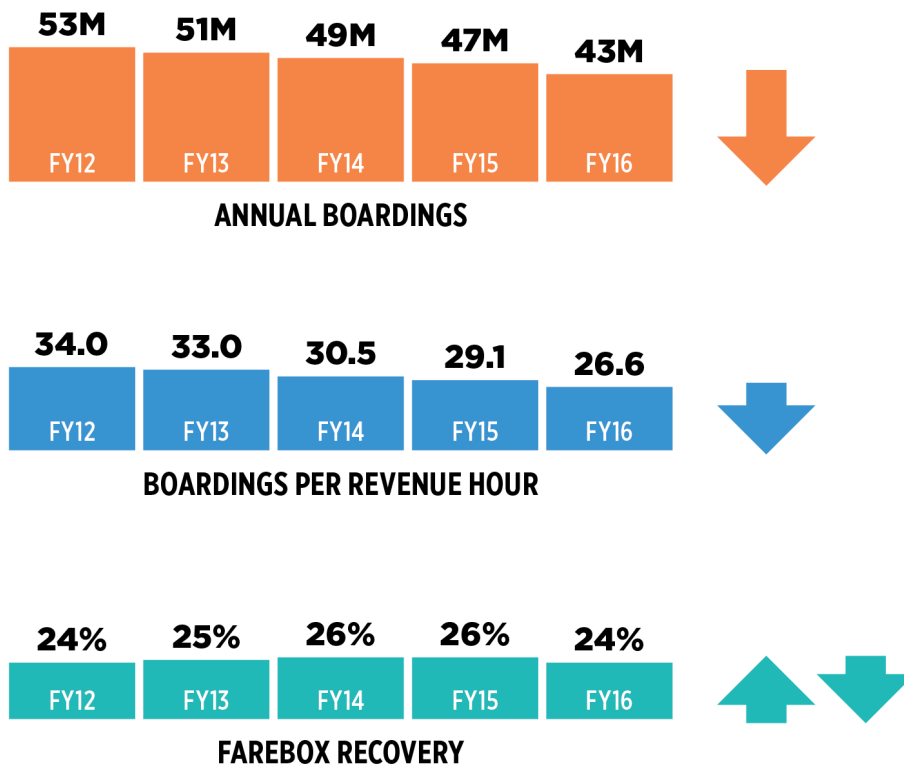


OC BUS SYSTEM PERFORMANCE

System Performance Summary

Over the past five years, annual OC Bus ridership has decreased by about 10 million boardings. System productivity has also decreased from 34 passengers per revenue hour to 27 passengers per revenue hour, following the decline in ridership. Fixed-route farebox recovery increased in the middle of the five-year period from 24 percent to 26 percent due to a fare increase, then returned to 24 percent in fiscal year 2016 (Figure 2-15).

Figure 2-15 Systemwide Performance Trends (FY12-FY16)



Route Categories

OC Bus operates 65 bus routes, each of which is classified into one of five types of bus service. Each category of service has a different purpose and design characteristics, influencing how the category typically performs. Key characteristics of all routes, by category, are shown in Figure 2-16. Maps of the service provided by category on weekdays and weekends are shown in Figure 2-17 and Figure 2-18. Figure 2-19 shows the performance of routes by category in fiscal year 2016.

Major Corridors

Major Corridors are routes that operate every 15 minutes or better during peak times. Route 42 and 83 are also included in this group. Route 42 operates as frequently as every 18 minutes and generates ridership similar to other Major Corridors. Route 83 connects south Orange County to

north Orange County, including Santa Ana and Anaheim Resort district, and operates every 20 minutes in the peak.

Major Corridors operate seven days a week throughout the day. Together, the Major Corridors form a grid on arterial streets throughout the densest parts of the OC Bus service area, primarily in northern parts of the county. As a group, these 19 routes carry more than three quarters of the annual system ridership; are the most productive, averaging 33 boardings per revenue hour; and have the highest farebox recovery ratio of any route category.

Local (Non Major)

Local routes operate on arterials within the grid created by the Major Corridors, but at lower frequencies. Local routes also operate in parts of Orange County with lower transit demand. Most Local routes operate seven days per week, however some operate on weekdays only. Local routes carry about 20 percent of the system ridership and are less productive than Major Corridors, averaging about 20 boardings per revenue hour.

Community

Community routes provide service tailored to connect pockets of transit demand with major destinations and offer local circulation. Routes tend to be less direct than Local routes due to service design focused on serving neighborhoods and destinations off the arterial grid. Half of Community routes operate seven days per week while half operate on weekdays only. Community routes carry less than three percent of OC Bus ridership, averaging 15 boardings per revenue hour. They have the second-highest farebox recovery of any route category (23 percent).

Stationlink

Stationlink routes are rail feeder services designed to connect Metrolink stations to nearby destinations. One or more Stationlink routes serve all Metrolink stations in Orange County except Buena Park, Fullerton, San Juan Capistrano, and San Clemente. These routes have relatively short alignments, with schedules tied to Metrolink arrivals and departures. They operate during weekday peak hours only, in the peak direction, from the station to destinations in the morning and the reverse in the evening. These routes carry less than one percent of OC Bus ridership and have similar productivity to Community routes, averaging 16 boardings per revenue hour.

Express

Express bus service operates on weekdays only at peak times and connects riders over long distances to destinations within and outside of Orange County, often using freeways to access destinations. Express routes carry less than one percent of OC Bus ridership and average nine boardings per revenue hour, the least of any route category. Express routes have 20 percent farebox recovery.

Figure 2-16 Service Span and Frequency by Day of Week (October 2016)

Route	Name	Service Type	Weekdays				Saturday		Sunday	
			Span of Service	Peak	Off-Peak	Evening	Span of Service	All Day	Span of Service	All Day
1	Long Beach to San Clemente	Local	4:33A - 11:41P	30/60	35/70	30/65	5:22A - 9:30P	60	5:22A - 9:30P	60
21	Buena Park to Huntington Beach	Local	5:16A - 9:00P	30/60	-	60	-	-	-	-
24	Buena Park to Mall of Orange	Local	5:00A - 9:50P	60	60	60	-	-	-	-
25	Fullerton to Huntington Beach	Local	5:50A - 11:07P	50	50	50	7:18A - 7:59P	60	7:18A - 7:59P	60
26	Buena Park to Yorba Linda	Major	4:51A - 10:48P	15/30	30	70	7:17A - 7:28P	45	7:17A - 7:28P	45
29	La Habra to Huntington Beach	Major	4:05A - 1:12A	15/20	20/40	20/40	4:06A - 12:41A	18/70	5:06A - 11:37P	18/70
30	Cerritos to Anaheim	Local	4:14A - 11:13P	30	30	30	6:20A - 9:01P	65	6:20A - 9:01P	65
33	Fullerton to Huntington Beach	Local	4:34A - 9:15P	40	40	40	7:19A - 7:30P	75	8:30A-7:55P	70
35	Fullerton to Huntington Beach	Local	4:35A - 11:26P	40	20/40	20/40	4:49A - 8:35P	45	4:49A - 8:12P	50
37	La Habra to Fountain Valley	Major	4:22A - 11:50P	15	30	30	5:21A - 9:19P	55	6:53A - 8:42P	60
38	Lakewood to Anaheim Hills	Major	4:12A - 12:18A	15/30	20/60	30/50	5:15A - 9:24P	45	5:15A - 9:24P	45
42	Orange to Seal Beach	Major	4:11A - 11:42P	18/36	18/54	30	5:42A - 9:21P	25/50	5:42A - 9:21P	25/50
43	Fullerton to Costa Mesa	Major	3:49A - 1:39A	20	20	20/30	4:00A - 1:38A	10	4:15A - 1:36A	22
46	Long Beach to Orange	Local	4:24A - 11:56P	25/30	30/35	30/70	6:30A - 8:42P	55	6:30A - 8:42P	55
47	Fullerton to Newport Beach	Major	3:55 A - 11:37P	15/60	20/60	15/60	4:55A - 10:54P	30/60	4:55A - 10:54P	30/60
50	Long Beach to Orange	Major	3:47A - 1:38A	15/30	30	45	4:00A - 1:43P	60/50/60	4:00A - 1:43P	60/50/60
53	Orange to Irvine	Major	4:31A - 11:43P	10/12	10/12	15/30	5:44A - 10:21P	15/45	5:32A - 10:18P	15/20/60
54	Garden Grove to Orange	Major	4:47A - 11:35P	15/30	15/30	15/30	5:57A - 10:10P	35	6:33A - 9:15P	40
55	Santa Ana to Newport Beach	Major	4:20A - 11:51P	15	20	30	5:01A - 11:10P	30	5:00A - 9:55P	30
56	Garden Grove to Orange	Local	4:49A - 10:10P	40	40	60	6:56A - 7:58P	70	6:57A - 7:51P	70
57	Brea to Newport Beach	Major	4:01A - 2:13A	10/12	10/12	15/20	3:57A - 1:50A	15/30/60	3:57A - 1:51A	15/30/60

Route	Name	Service Type	Weekdays				Saturday		Sunday	
			Span of Service	Peak	Off-Peak	Evening	Span of Service	All Day	Span of Service	All Day
59	Anaheim to Irvine	Local	4:26A - 11:31P	25	35/70	40	6:01A - 10:16P	55	9:00A - 10:16P	55
60	Long Beach to Tustin	Major	3:56A - 1:33A	20	20	20	4:00A - 1:34A	15/30/60	4:00A - 1:34A	15/30/60
64	Huntington Beach to Tustin	Major	4:23A - 11:36P	10/12	10/12	30	5:12A - 10:58P	14/30	5:36A - 10:44P	14/30
66	Huntington Beach to Irvine	Major	4:02A - 11:53P	15/30	15/30	15/30	4:53A - 10:23P	15/60	4:53A - 10:23P	15/60
70	Sunset Beach to Tustin	Major	4:25A - 11:34P	15	20	30	4:48A - 10:30P	20	5:50A - 9:24P	30
71	Yorba Linda to Newport Beach	Local	4:30A - 11:40P	30	30	30	5:55A - 10:31P	45	5:46A - 9:48P	60/65
72	Sunset Beach to Tustin	Local	5:02A - 9:19P	30	30	30	6:52A - 8:19P	60	8:07A - 7:28P	60
76	Huntington Beach to Newport Beach	Local	6:01A - 7:00P	60	60	60	-	-	-	-
79	Tustin to Newport Beach	Local	5:04A - 11:37P	30	30	30	5:43A - 9:06P	60	5:43A - 9:06P	60
82	Mission Viejo to Rancho Santa Margarita	Local	4:51A - 7:58P	70	65	65	-	-	-	-
83	Anaheim to Laguna Hills	Major	4:44A - 12:55A	15/30	35	30/60	5:40A - 11:55P	30/60	5:28A - 11:12P	60/40/55
85	Mission Viejo to Dana Point	Local	5:29A - 10:04P	60	60	60	-	-	-	-
86	Costa Mesa to Mission Viejo	Local	5:42A - 9:53P	60	60	60	-	-	-	-
87	Rancho Santa Margarita to Laguna Niguel	Local	5:59A - 7:07P	60	60	-	-	-	-	-
89	Lake Forest to Laguna Beach	Local	4:50A - 11:11P	35	35	60	4:57A - 9:27P	70/90	4:57A - 9:27P	70/90
90	Tustin to Dana Point	Local	5:18A - 11:16P	30	60	60	6:17A - 11:32P	80	6:05A - 8:58P	80
91	Mission Viejo to Laguna Hills	Local	4:46A - 10:51P	35	35	60	6:48A - 8:27P	45	6:50A - 8:29P	45
129	La Habra to Anaheim	Community	5:28A - 11:03P	45	70	50	5:36A - 10:47P	55	5:36A - 10:47P	55
143	La Habra to Brea	Community	4:32A - 10:56P	75	75	75	5:11A - 10:29P	65	6:14A - 9:43P	65
150	Santa Ana to Costa Mesa	Community	5:55A - 7:01P	35	75	-	-	-	-	-
153	Brea to Orange	Community	4:20A - 10:29P	60/70	60/70	55/65	6:00A - 9:44P	60	7:00A - 9:44P	60
167	Anaheim to Irvine	Community	5:09A - 9:38P	60	60	60	-	-	-	-

EXISTING SYSTEM ANALYSIS

Route	Name	Service Type	Weekdays				Saturday		Sunday	
			Span of Service	Peak	Off-Peak	Evening	Span of Service	All Day	Span of Service	All Day
177	Foothill Ranch to Laguna Hills	Community	5:50A - 7:17P	45	45	45	7:25A - 7:15P	80	7:23A - 7:23P	80
178	Huntington Beach to Irvine	Community	5:45A - 11:09P	45	65	60	-	-	-	-
206	Santa Ana to Lake Forest	Express	SB 3:49A - 12:40P NB 1:20P-10:12P	5 SB trips; 5 NB trips		-	-	-	-	-
211	Irvine to Seal Beach	Express	5:35A - 7:22P	11 SB trips; 11 NB trips	-	-	-	-	-	-
212	Irvine to San Juan Capistrano	Express	NB 5:46A - 7:30A SB 3:54P - 6:47P	2 NB trips; 2 SB trips	-	-	-	-	-	-
213	Brea to Fullerton	Express	SB 5:21A - 7:22A 4:08P - 7:12P	4 SB trips; 4 NB trips	-	-	-	-	-	-
216	Costa Mesa to San Juan Capistrano	Express	NB 6:32A - 7:38A SB 4:35P - 5:50P	1 NB trip; 1 SB trip	-	-	-	-	-	-
411	Anaheim Canyon Metrolink Station	Stationlink	EB 6:25A - 8:35A WB 4:00P - 5:45P	-3 EB trips; 3 WB trips	-	-	-	-	-	-
430	Anaheim Amtrak Station to Anaheim	Stationlink	WB 6:26A - 9:07A EB 3:30P - 6:23P	-6 WB trips; 5 EB trips	-	-	-	-	-	-

Route	Name	Service Type	Weekdays				Saturday		Sunday	
			Span of Service	Peak	Off-Peak	Evening	Span of Service	All Day	Span of Service	All Day
453	Orange Metrolink Station to Orange	Stationlink	SB 5:48A - 9:06A NB 3:27P - 5:38P	7 SB trips; 6 NB trips	-	-	-	-	-	-
454	Orange Metrolink Station to The Block	Stationlink	SB 5:48A - 9:06A NB 3:26A - 6:29P	7 SB trips; 7 NB trips	-	-	-	-	-	-
462	Santa Ana Depot to Civic Center	Stationlink	5:53A - 5:31P	-14 trips	-	-	-	-	-	-
463	Santa Ana Depot to Imperial Promenade	Stationlink	SB 5:53A - 9:21A NB 2:41P - 5:31P	-7 SB trips; 6 NB trips	-	-	-	-	-	-
472	Tustin Metrolink Station to Irvine	Stationlink	SB 6:09A - 9:06A NB 3:29P - 5:21P	-6 SB trips; 4 NB trips	-	-	-	-	-	-
473	Tustin Metrolink Station to UCI	Stationlink	SB 6:09A - 9:21A NB 3:07P - 6:36P	-8 SB trips; 6 NB trips	-	-	-	-	-	-
480	Irvine Metrolink Station to Irvine Spectrum	Stationlink	EB 6:07A - 9:12A WB 3:25P - 5:18P	-6 EB trips; 3 WB trips	-	-	-	-	-	-
490	Laguna Niguel Train Station	Stationlink	NB 6:19A - 9:18A SB 3:18P - 6:25P	-4 NB trips; 5 SB trips	-	-	-	-	-	-
543	Fullerton to Costa Mesa	Major	5:02A - 8:00P	12	18	60	6:51A - 7:49P	22	6:51A - 7:49P	22
560	Santa Ana to Long Beach	Major	6:03A - 7:22P	12/24	15/30	-	-	-	-	-
701	Los Angeles to Huntington Beach Express	Express	NB 5:30A - 8:02A SB 4:15P - 6:45P	3 NB trips; 3 SB trips	-	-	-	-	-	-

EXISTING SYSTEM ANALYSIS

Route	Name	Service Type	Weekdays				Saturday		Sunday	
			Span of Service	Peak	Off-Peak	Evening	Span of Service	All Day	Span of Service	All Day
721	Los Angeles to Fullerton Express	Express	NB 5:10A - 6:26A SB 6:10P - 7:26P	7 NB trips; 7 SB trips	-	-	-	-	-	-
794	Riverside / Corona to South Coast Metro Express	Express	WB 4:50A - 8:53A EB 3:25P - 7:06P	-8 WB trips; 7 EB trips	-	-	-	-	-	-

Note: Frequencies noted in the format "# / #" reflect headways of different route patterns.

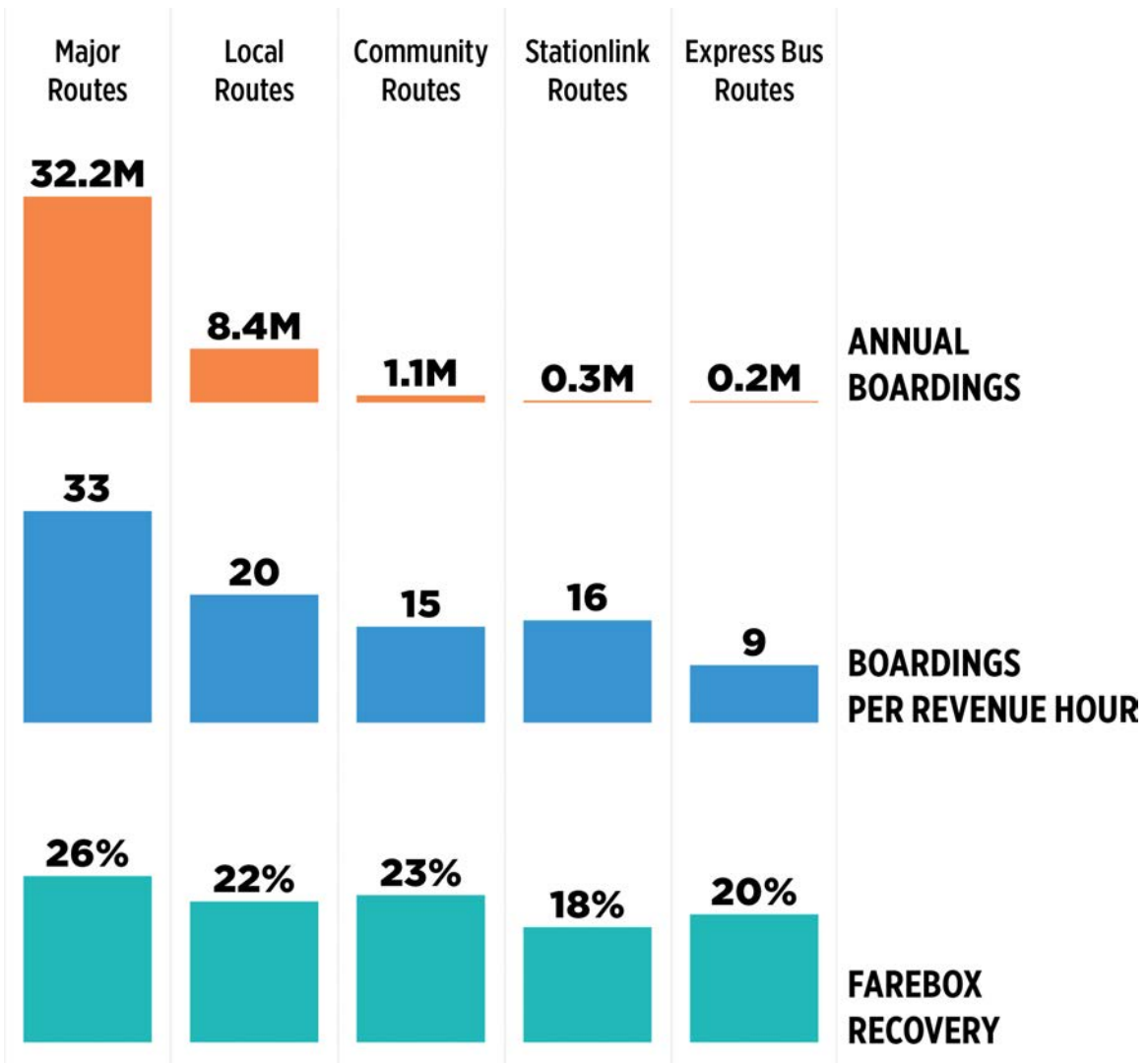
Figure 2-17 Weekday Service by Category



Figure 2-18 Weekend Service by Category



Figure 2-19 Fiscal Year 2016 Route Category Performance Summary

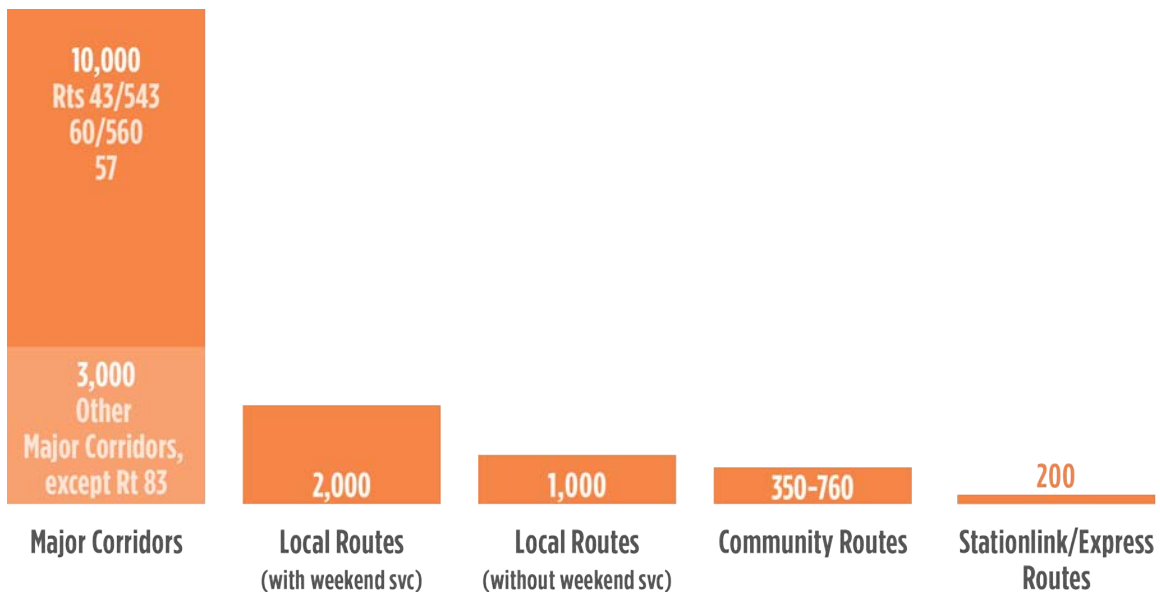


Key Performance Indicators

Since June 2016, OC Bus has undergone two significant service changes as part of the 2016 Bus Service Plan, which is a part of OC Bus 360° initiative, which focused on optimizing system efficiency and effectiveness. Performance indicators in this section are based on fiscal year 2016. As a result, figures do not reflect recent route or service changes. Routes that operated in fiscal year 2016 and have since been discontinued are not included in the following figures.

As shown in Figure 2-20, three OC Bus routes carry more than 10,000 riders on weekdays, all of which are Major Corridors: Route 43/543, Route 60/560, and Route 57. All Major Corridors carry more than 3,000 riders on average weekdays except Route 83. Most Local routes carry fewer than 2,000 riders per weekday, with the exception of Routes 1, 35, 46, 59, and 71. Local routes that do not provide weekend service all carry fewer than 1,000 riders per day. Community routes carry between 350 and 760 riders per weekday, while Stationlink and Express routes carry less than 200 riders per weekday.

Figure 2-20 Ridership Comparison by Route Type

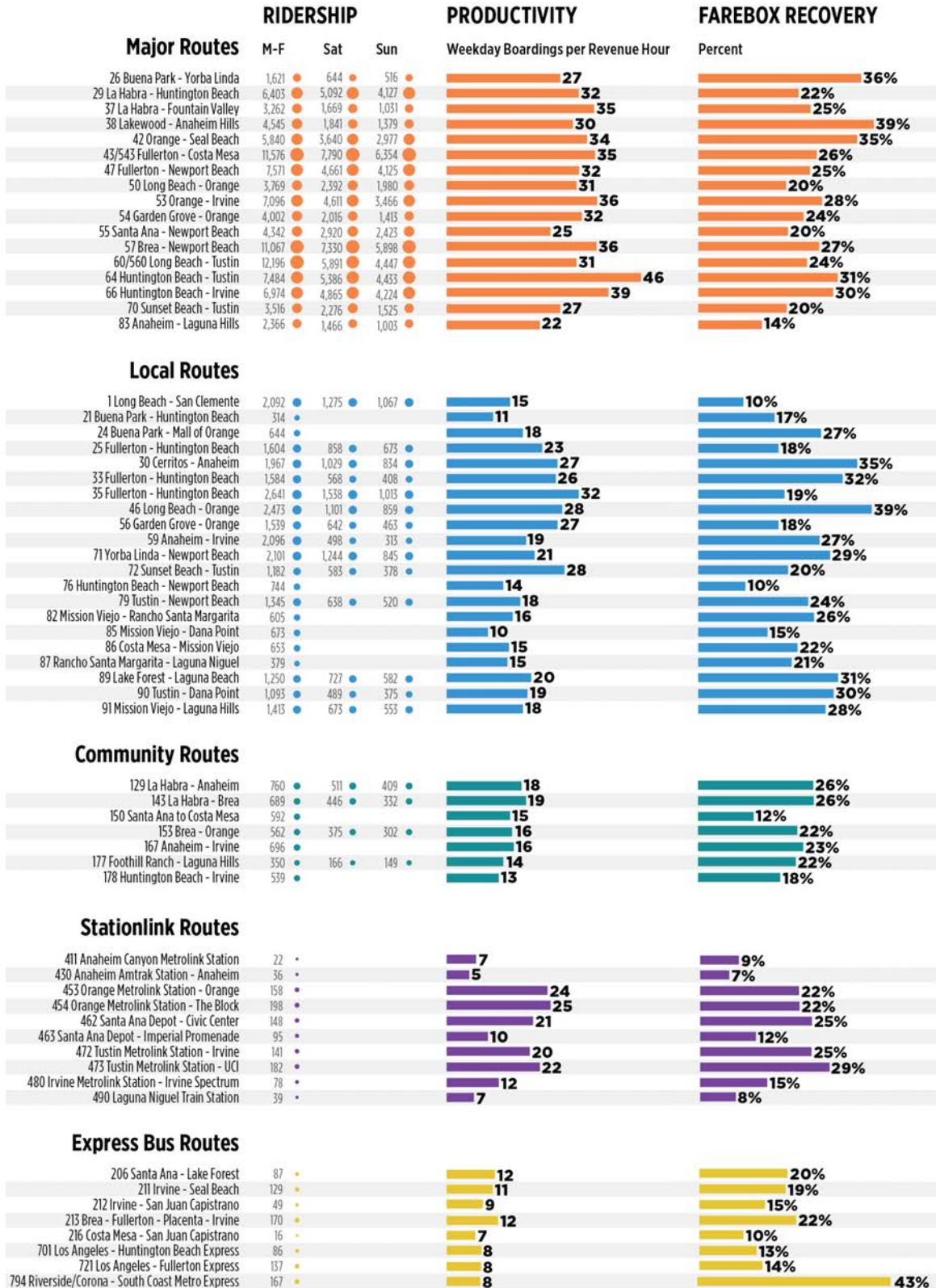


Route productivity, measured in passengers per revenue hour of service, describes the effectiveness of each route. Route 64 is the most productive OC Bus route, carrying 46 passengers per hour. Within the Major Corridors category, Route 83 is the least productive, carrying 22 passengers per hour.

Farebox recovery is the percentage of each route’s operating cost that is recovered through passenger fares. Farebox recovery varies within each of the route categories. About half the routes have farebox recovery between 20 and 30 percent. Four routes recover less than 10 percent of their operating costs through fares, while Route 794 has the highest farebox recovery ratio of 43 percent.

Figure 2-21 presents ridership, productivity, and farebox recovery for each route, for the 2016 fiscal year.

Figure 2-21 Ridership (Average Daily Boardings), Productivity, and Farebox Recovery, by Route (FY2016)



Ridership and Frequency

Figures 2-21 to 2-23 show stop-level ridership from March 2016. This data does not reflect changes made in June and October 2016 as part of implementing the 2016 Bus Service Plan. However, it does show general trends in OC Bus ridership throughout Orange County. Ridership volumes are notably higher north of State Route 55. In North Orange County, ridership is concentrated heavily in Santa Ana and is highest where corridors intersect. Because of transfers, The Harbor Boulevard and Westminster Boulevard corridors served by Bravo! routes stand out as major spines for the system. In addition, Beach Boulevard, which is west of the highest ridership concentration, has a strong ridership market. Ridership declines overall on Saturday and Sunday but maintains a similar pattern.

In South Orange County, weekday ridership centers around Metrolink stations and transit hubs such as the Laguna Hills Transportation Center and local high schools. On Saturdays and Sundays, ridership at these transit hubs decreases significantly, as Stationlink and Express services do not operate.

Figure 2-25 shows afternoon peak frequency levels operated by OC Bus. Corridors on which multiple routes operate show levels of service provided by all routes combined. Generally, frequency levels match weekday ridership patterns, with high-ridership corridors supported by 15-minute or better service.

Figure 2-22 Weekday Bus Boardings by Bus Stop

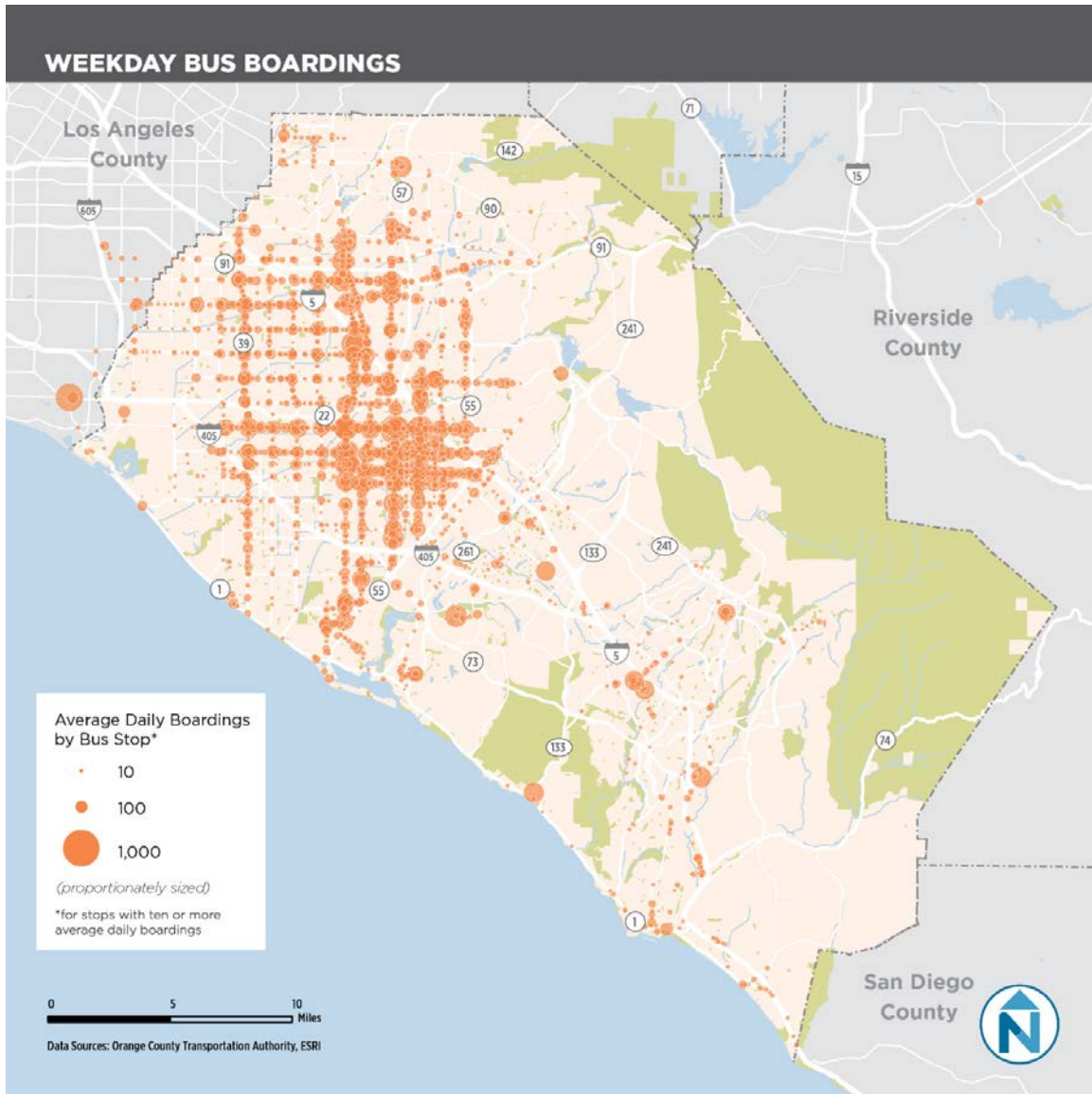


Figure 2-23 Saturday Bus Boardings by Bus Stop

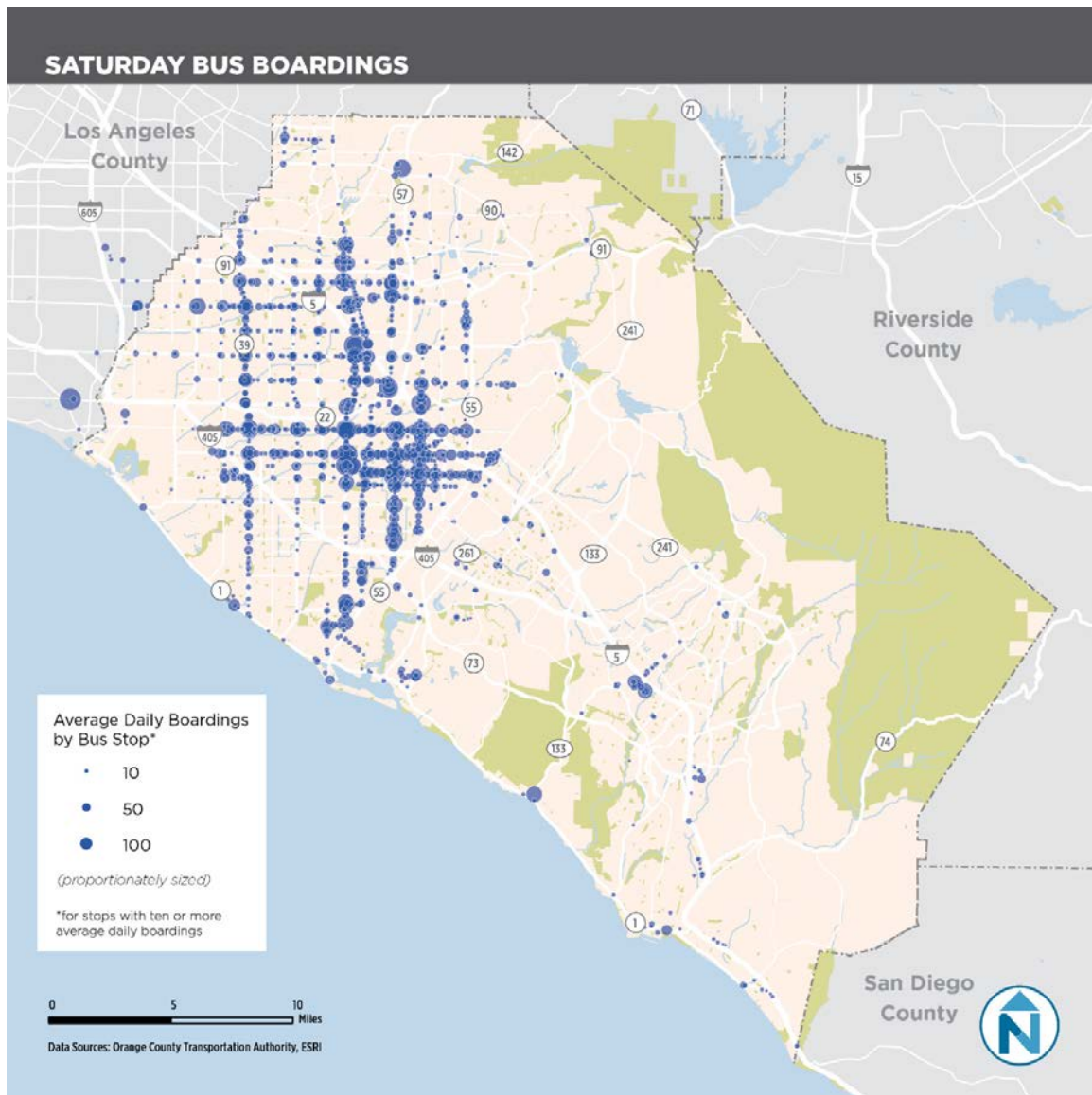


Figure 2-24 Sunday Bus Boardings by Bus Stop

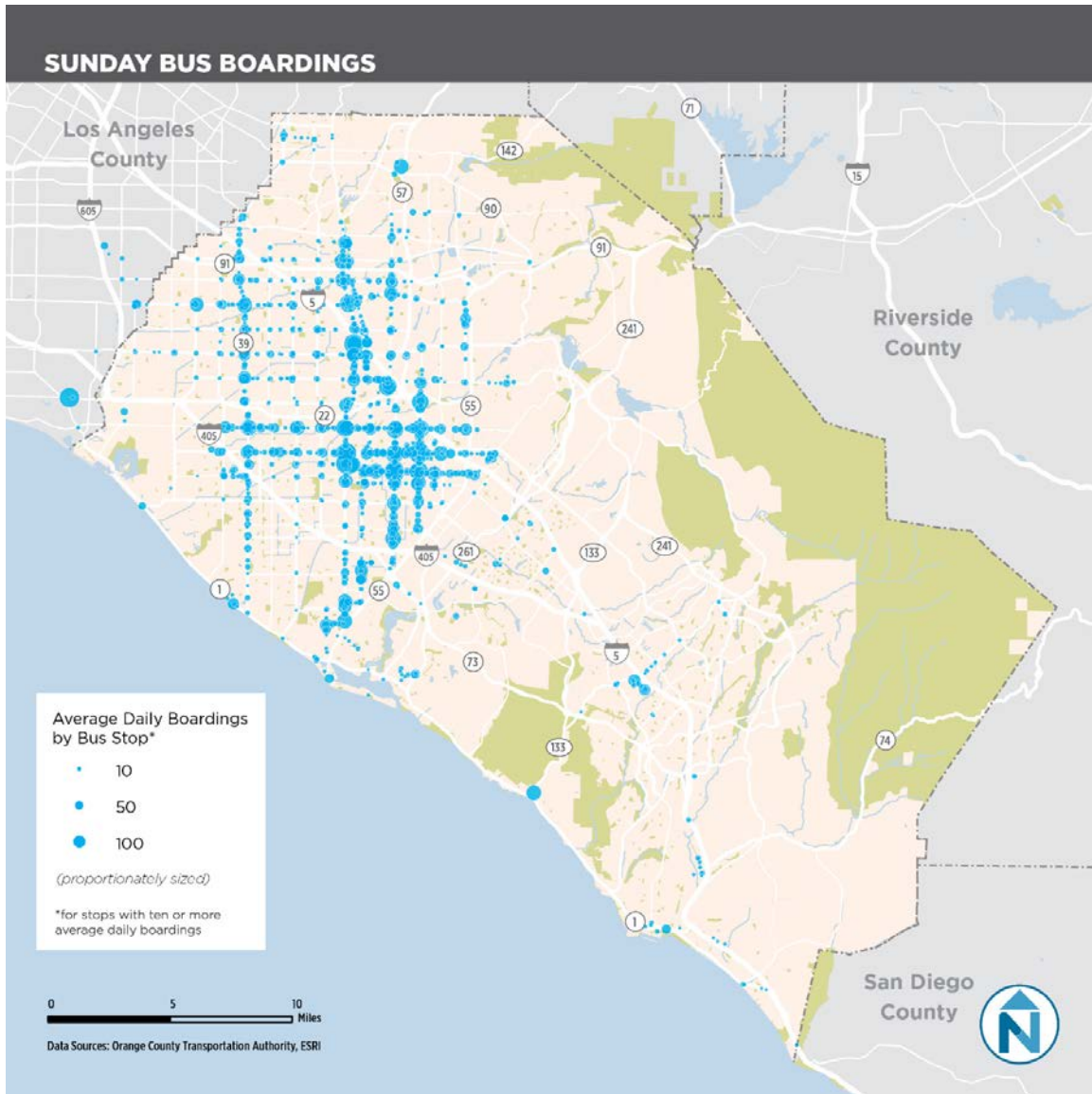
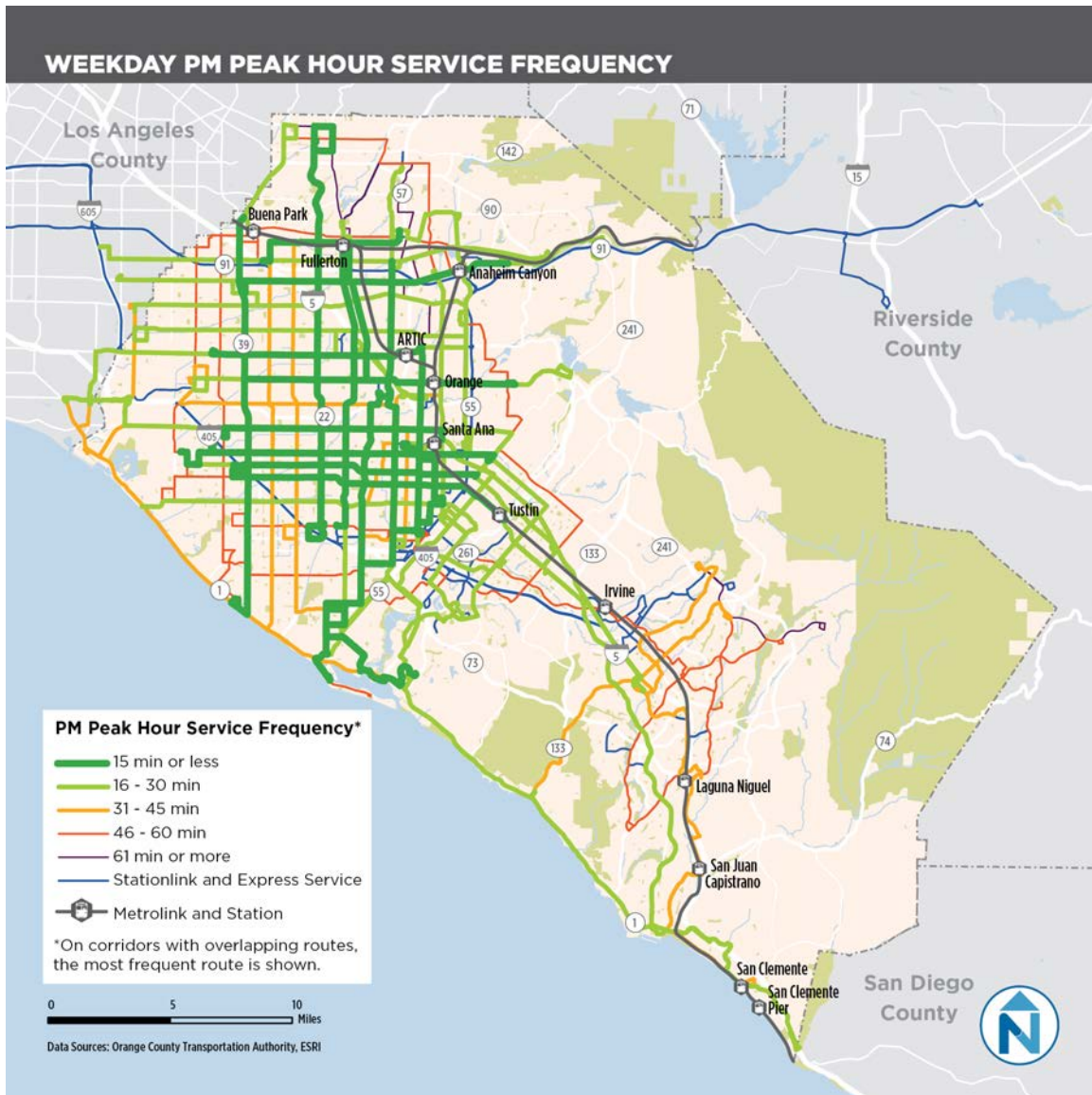


Figure 2-25 Weekday PM Peak Hour Service Frequency



COMPARISON BY MODE

OCTA operates three modes of transit service in addition to OC Bus fixed-route service: ACCESS paratransit service, OC Vanpool service, and Metrolink commuter rail service. While most OCTA service consists of OC Bus (62 percent of revenue service hours in FY 2015), and OC Bus accounts for an even larger majority of all boardings (89 percent in 2015), other modes account for a large share of costs: 35 percent in 2015. As a result, costs per boarding are higher for other modes than for OC Bus: paratransit had a cost per boarding of \$43.28 in FY 2015, compared to \$19.63 for commuter rail, \$6.18 for vanpool, and \$5.15 for fixed-route.

At the same time, the other modes serve longer trips—up to 29 miles per trip for commuter rail, and 34 for vanpool—and OC Vanpool has by far the lowest cost per revenue mile, at less than \$1 in FY 2015. Notably, commuter rail accounts for just 5 percent of boardings, but 26 percent of passenger miles.

The figures below compares historic (FY 2008) and current (FY 2015) performance for each mode using different indicators of cost, utility, and cost-effectiveness. Most figures are from the National Transit Database. Commuter rail figures are estimated from Metrolink systemwide statistics.

Figure 2-26 Total O&M Expense

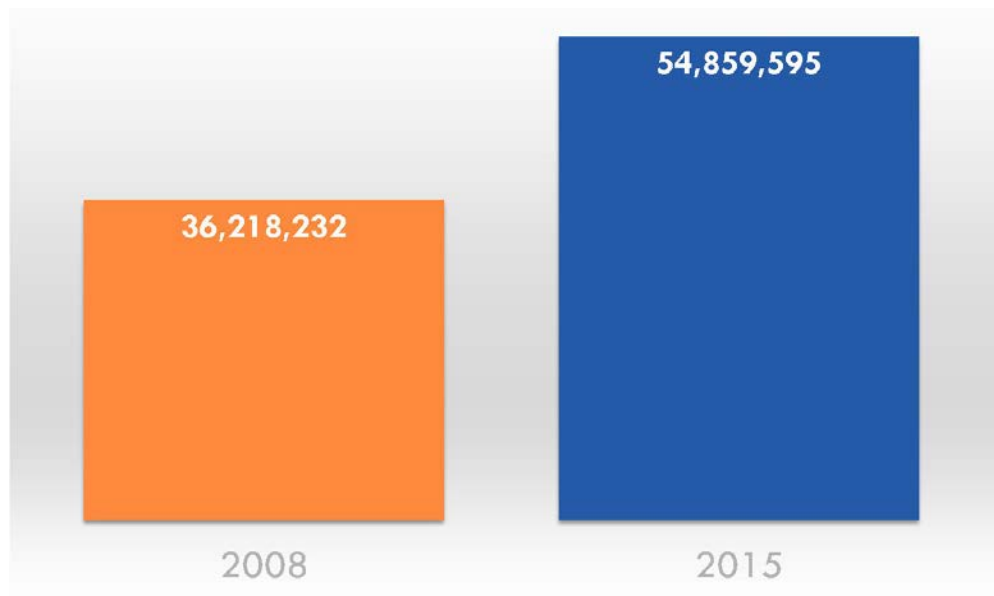


Figure 2-27 Service Area Size (square miles)

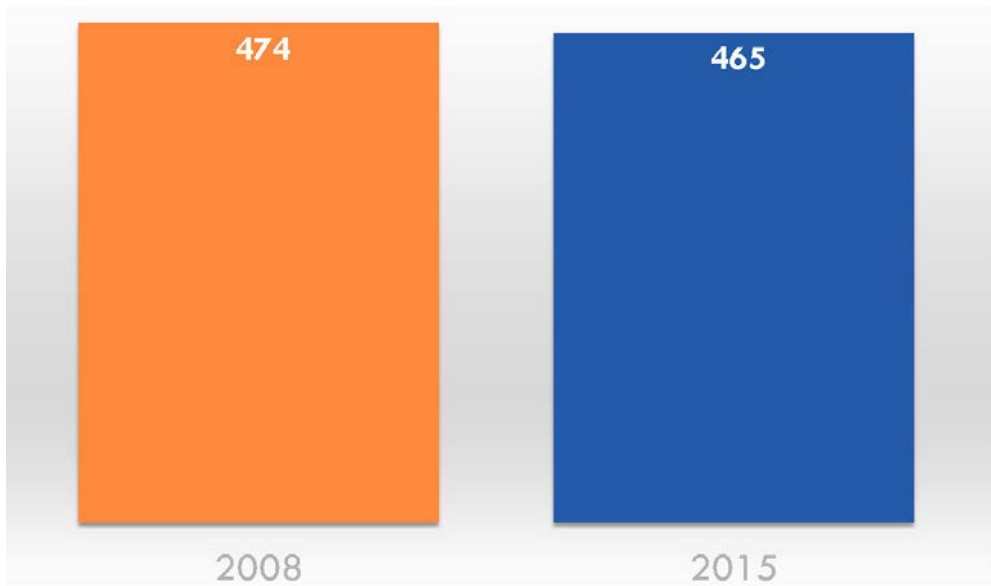


Figure 2-28 Service Area Population

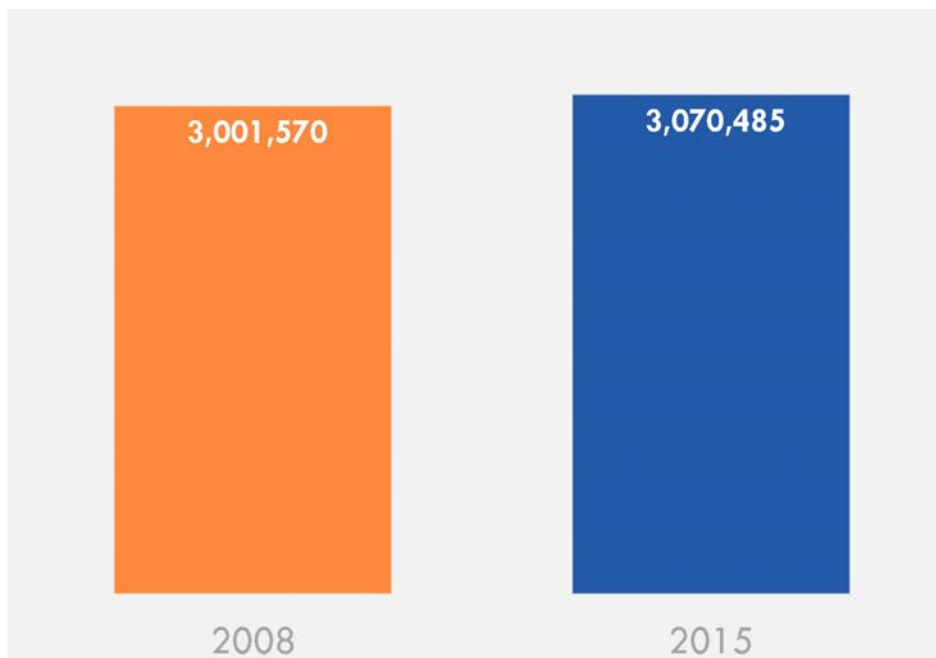


Figure 2-29 All Boardings

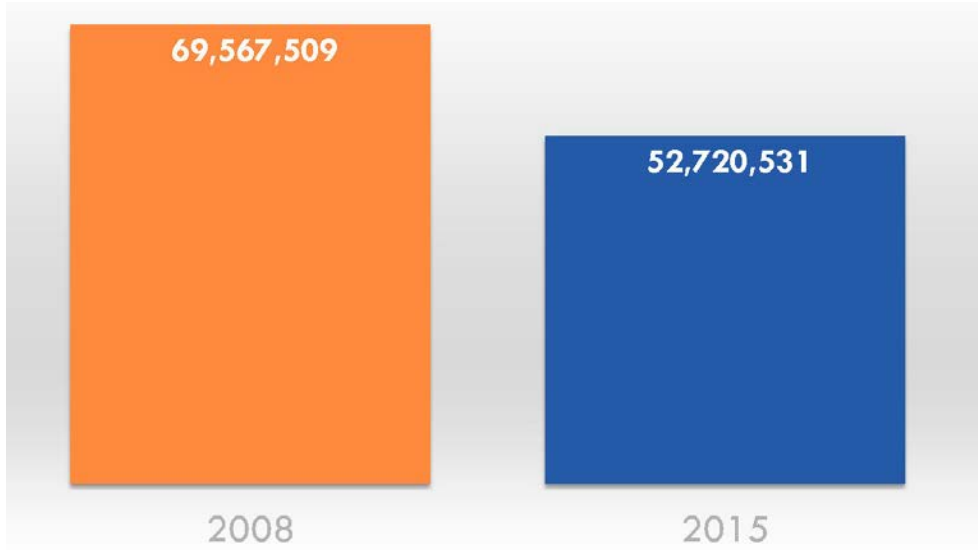


Figure 2-30 Boardings by Mode

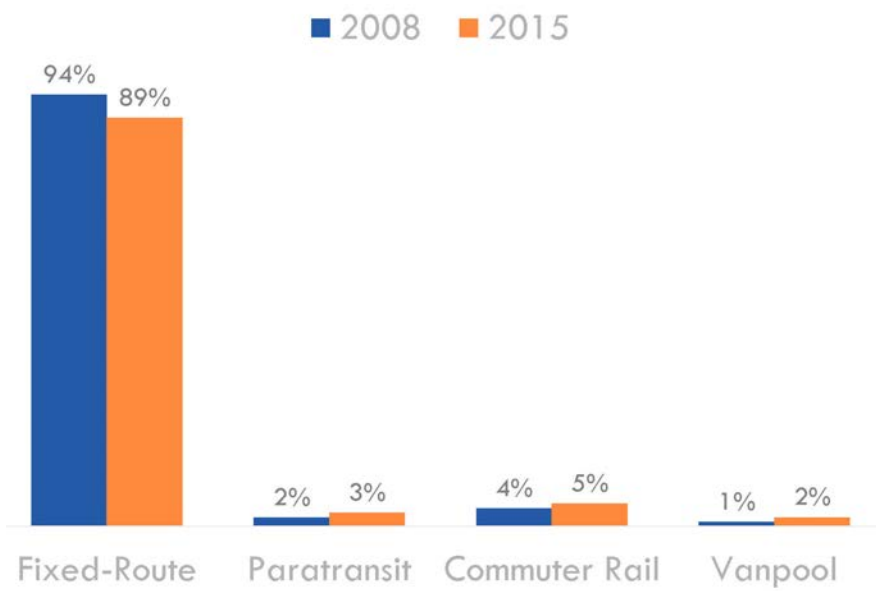


Figure 2-31 Passenger Miles (All Modes)

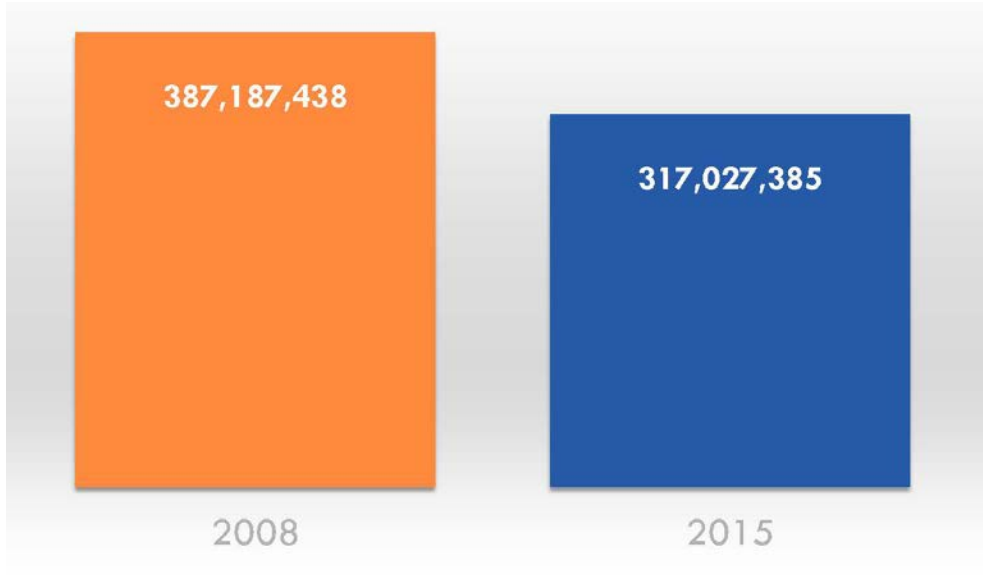


Figure 2-32 Passenger Miles (By Mode)

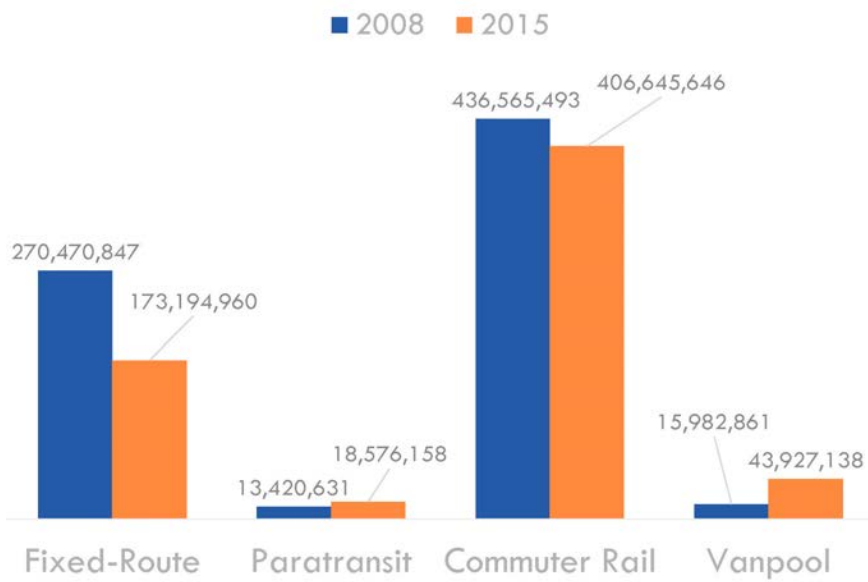


Figure 2-33 Average Trip Length



Figure 2-34 Revenue Hours (All Modes)

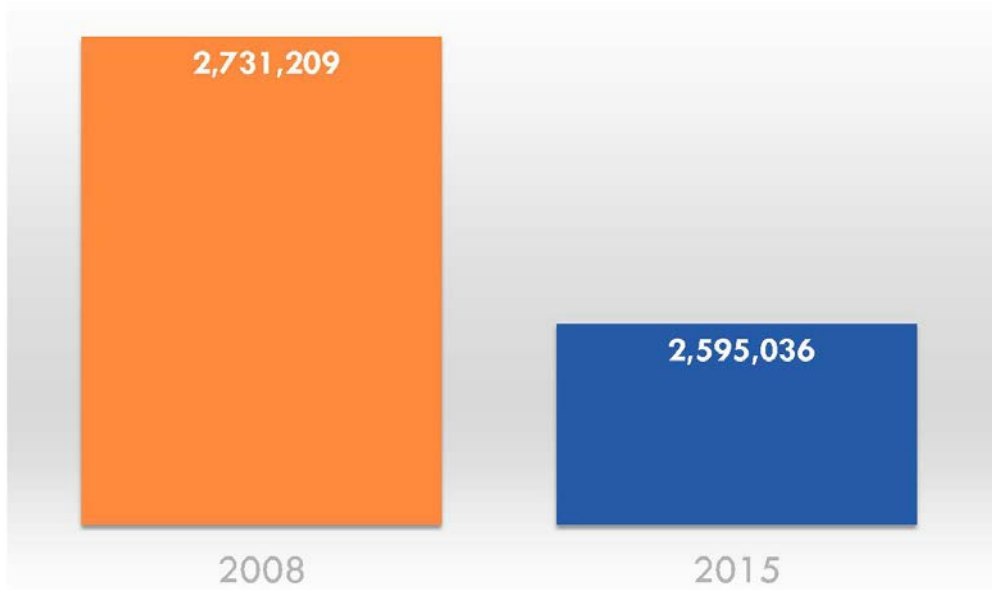


Figure 2-35 Revenue Miles (All Modes)

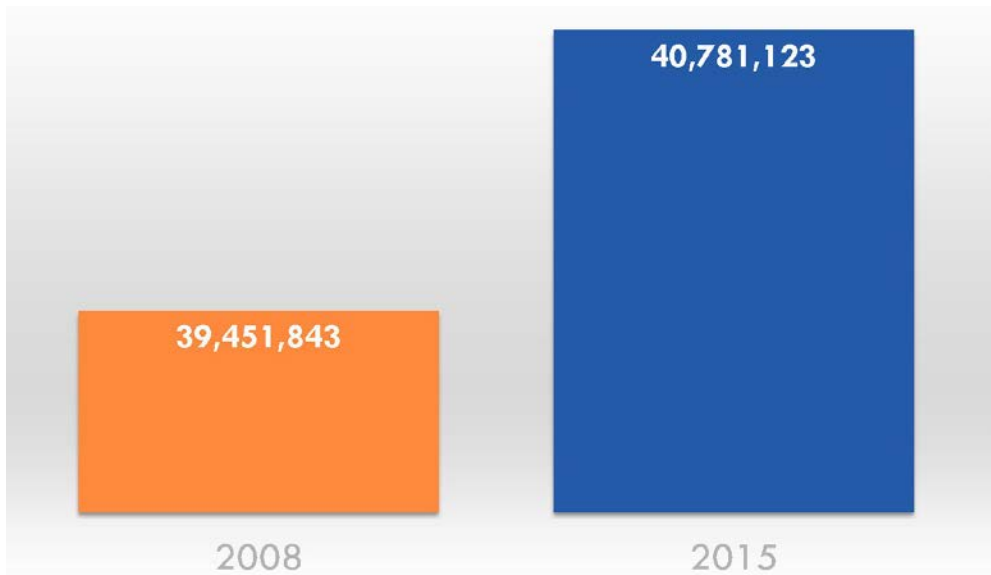


Figure 2-36 Cost per Boarding



Figure 2-37 Operating Cost

