



ACCESS SERVICES COMPREHENSIVE OPERATIONAL REVIEW

Mid-Study Report

June 2017



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EXECUTIVE SUMMARY

OVERVIEW OF ACCESS AND ACCESS PARATRANSIT

Access Services (“Access”) is the designated public agency in Los Angeles County for coordinating and providing ADA complementary paratransit services called “Access Paratransit” on behalf of 45 member municipalities and public transit agencies. Access Paratransit has the second largest ADA paratransit ridership in the country. Over four million ADA paratransit trips are served annually, with an average of 11,000 passenger trips per weekday, over a vast service area of 1,325 square miles.

This large service area is divided into six regions, each with its own contractor, as shown in the table below.

Figure 0-1 | Service Regions and Contractors

Region	Contractor
Eastern	San Gabriel Transit (SGT)
West Central	California Transit (CTI)
Southern	Global Paratransit (Global)
Northern	MV Transportation (MV)
Antelope Valley	Keolis
Santa Clarita	City of Santa Clarita/MV Transportation

The first four regions are collectively referred to in this report as the LA Basin regions, while the Antelope Valley region and the Santa Clarita regions are known as the North County regions. In FY 2016, approximately 95% of the Access trips¹ were served by the four contractors in the LA Basin regions.

The Access Paratransit service model may be best described as a decentralized zoned turnkey model. Each contractor is responsible for:

- The intake of reservations for trips emanating from their assigned region; return-trip requests for inter-region round trips are transferred to the contractor assigned to the destination region.
- Scheduling trips onto dedicated runs each contractor operates, primarily with Access-owned vehicles provided to the contractors, and dispatching these trips.
- In the LA Basin regions only, assigning other (unscheduled) trips to taxi subcontractors. Some pre-scheduling of these trips is performed, organizing some of these trips into fully-dedicated runs or semi-dedicated mini runs of two to four hours. In FY 16, around 40% of all Access

¹ A “trip” refers to a trip made by an Access-eligible customer, as well as certification trips. “Ridership” refers to trips made by Access-eligible customers, Personal Care Attendants (PCAs), companions, and children, but does not include certification trips.

Paratransit trips are served by the numerous taxi subcontractors; however, among the four LA Basin contractors who use taxi subcontractors, the portion is now closer to 50% and is climbing.

- Responding to customers' same-day issue calls (e.g., ETA or trip status calls).
- Delivering service, collectively with a fleet of 848 dedicated vehicles, all but a few provided by Access, plus approximately 1,300 certified taxicabs.

Each contractor is also responsible for providing its own facility, supplemental vehicles, telephone system, software system, radio system and in-vehicle equipment, and for performing road supervision, fleet maintenance, reporting, and other support functions.

In recent years, some of the above functions have been consolidated between contractors as cost-efficiency strategies. For example:

- SGT and CTI have consolidated their reservations and scheduling functions, i.e., the same staff at SGT's facility handle the reservations for customers whose trips emanate from both the Eastern and West Central regions, while the consolidated scheduling staff schedule trips served by SGT and CTI-operated vehicles.
- SGT and CTI, which have a common ownership, also have implemented a "trip-exchange" strategy, where the combined scheduling staff can schedule an Eastern region trip onto a CTI-operated vehicle and a West Central trip onto an SGT vehicle, if it is more efficient to do so.
- Global now contracts with MV to intake reservations for the Southern Region.
- MV contracts with Global to serve (1) a portion of its weekday work (5 a.m. to 6 p.m.); (2) all of the overnight weekday trips (from 10 p.m. to 5 a.m.); and (3) about half of its weekend trips. While Global does serve some of these trips with its dedicated fleet, most of these trips operated by Global are subcontracted to taxi resources.
- MV also contracts with SGT taxi subcontractors for a portion of the weekday peak work and about a quarter of the weekend work.

All contractors are paid based on a split rate: a fixed monthly fee that covers fixed costs, and rate per customer trip (note: ADA customer trips only) that covers variable costs.

Access also contracts with SGT to serve the certification trips throughout the region. These trips are served with dedicated vehicles and is paid on a per revenue vehicle hour (RVH) basis.

Access retains a separate contractor to staff the Customer Service Call Center and the Operations Monitoring Center (OMC). Part of the OMC staff's responsibilities is to respond to escalated calls from customers who feel stranded or in cases where their contractor cannot serve the trip for an extended period. This happens, for example, at the transfer point if one of the vehicles happens to be delayed by traffic and a dispatcher authorizes the waiting vehicle to depart with other customers so as not to delay their trips further. OMC has their own set of back-up service providers.

Key policies for Access Paratransit include the following

- In concert with what is minimally required by the ADA, Access' service area and times correspond to the three-quarter mile fixed-route corridors and transit service times. The basic service hours are daily, 4 a.m. to midnight, although 24-hour service is provided in some areas.
- Access has a next-day reservations policy, also in concert with what is minimally required by the ADA.
- Reservations hours for the LA Basin regions are 6 a.m. to 10 p.m. daily. The Santa Clarita region also has these hours except on Sunday, when reservations are open from 6 a.m. to 8 p.m. Reservations hours in the Antelope Valley region are 8 a.m. to 5 p.m. daily. These reservations hours go beyond what is minimally required by the ADA.

- Access has established a distance based fare structure: trips up to 19.9 miles long cost \$2.75. Trips 20 miles long or greater cost \$3.50. Local fares in Santa Clarita and Antelope Valley are \$2.00, with transfer trip fares being higher.
- Trips are booked and scheduled based on pick-up time only; reservation agents will suggest guidelines for pick-up times based on stated appointment times.
- Paratransit-to-paratransit transfers are required for trips to and from the North County regions; inter-region trips within the LA Basin regions are served directly (without transfers). The pick-up window is 0/20 minutes.
- While curb-to-curb service level of assistance is provided as a default, Beyond the Curb (BTC) requests are accommodated for customers who require origin to destination accommodation.
- Customers may request “call-outs” – imminent arrival calls or texts based on the actual location of the vehicle to which their trip has been assigned. Access is also developing a ‘Where’s My Ride’ app that will enable customers to access the up-to-the-minute ETA and the mapped location of the vehicle.

Headquartered in El Monte, Access Services oversees Access Paratransit, sets policies, is responsible for retaining and monitoring the contractors, provides vehicles to the contractors, and is vested with fiscal oversight. It is organized into five departments: Operations & Safety, Finance, Planning and Governmental Affairs, Human Resources, and Administration. Altogether, Access has approximately 71 employees.

Access is overseen by a nine-member Board of Directors, with representation from Los Angeles County Metropolitan Transportation Authority, County of Los Angeles Board of Supervisors, Los Angeles Municipal Operators, City of Los Angeles’ Mayor’s Office, City Selection Committee’s Corridor Transportation Representatives, Los Angeles County Commission on Disabilities, Los Angeles County Independent Living Centers Collaboration, and two local operators.

Access and its Board are also guided by two standing committees: (1) a Community Advisory Committee (CAC) composed of Access Paratransit customers and advocates, and (2) a Transportation Professionals Advisory Committee (TPAC) composed of representatives from some of Access’ member transit agencies and other transportation professionals from the region.

COMPREHENSIVE OPERATIONAL REVIEW

Access retained Nelson\Nygaard Consulting Associates with sub-consultant teammates (AMMA Transit Planning and DemandTrans Solutions) to explore alternatives to the current methods of operation and oversight to see if improvements are possible.

The study included interviewing and observing contractor management and staff and interviewing Access management and staff. The consulting team also met with and has sought input from the Access Board, as well as CAC and TPAC members.

The consulting team performed a comprehensive review of service performance and cost data; reported on how service is trending based on ridership, cost, and other key performance indicators (KPIs); and assessed how Access’ KPI targets and actual KPIs match up with its peers.

Special attention focused following topical areas with an eye toward whether improvements in these areas would enhance cost efficiency and/or service quality:

- Policies, Practices, and Procedures – Specific attention focused on changes to reservations hours, service area size, and the reintroduction of same-day service.

- **Fleet and Service Mix** – These assessments focused on fleet utilization factors and how they are affected by the use of taxi subcontractors.
- **Technology** – This assessment focused on the functionality of the four paratransit scheduling software systems currently in use as well as the effectiveness of the in-vehicle equipment, the radio system infrastructure, the telephone system and supporting software, and the IVR system. The consulting team also identified the pros and cons of migrating to one software package.
- **Management and Oversight** – This included identifying areas where staff is over- or under-burdened.
- **Service Model Structure** – In this assessment, the consulting team developed six alternative service design/models, assessed how they might address specific issues identified in the study, and estimated prospective savings.

Highlights from our assessments of these topical areas are below.

SERVICE AND COST PERFORMANCE

Ridership

Access Paratransit ridership increased from 3.41 million in FY2013 to 4.26 million FY 2016, a 25% increase over that time period with an annual increase ranging from of 6% to 9%.

Figure 0-2 | Total Ridership by Region (FY13 to FY16)

Region	FY13	FY14	%	FY15	%	FY16	%	FY13-FY16
Eastern	915,681	980,084	7%	1,042,759	6%	1,132,172	9%	24%
West Central	540,233	574,085	6%	628,605	9%	663,340	6%	23%
Southern	1,131,550	1,254,297	11%	1,360,595	8%	1,437,977	6%	27%
Northern	668,602	716,780	7%	756,719	6%	775,998	3%	16%
Antelope Valley	111,253	142,261	28%	168,251	18%	199,554	19%	79%
Santa Clarita	46,381	43,368	-6%	42,489	-2%	41,489	-2%	-11%
OMC Back Up	4,361	11,193	157%	6,960	-38%	5,440	-22%	25%
Access Total	3,418,061	3,722,068	9%	4,006,378	8%	4,255,970	6%	25%

The most dramatic changes over this time period were in the two North County regions, with ridership in the Antelope Valley increasing a whopping 79% and the ridership in Santa Clarita declining by 11%.

Meanwhile in the four higher ridership regions of the LA Basin, we see ridership increases over this period ranging from 23% to 27% in the Eastern, West Central and Southern regions with a more modest 16% increase in the Northern region.

Use of Other Contractors and Taxi Subcontractors

Access Paratransit contractors frequently use taxi subcontractors to provide service, and also occasionally use other Access contractors to serve “their” trips. The figures below are from FY 2016. For three of the LA Basin regions, use of taxi subcontractors ranged from 41% to 53% of the trips served. And while MV in the Northern region did not use taxis much in FY 2016, they currently use taxi subcontractors to serve 40% of their trips.

Figure 0-3 | Service Mix (FY16)

Region	Trips served on Dedicated Runs Operated by Contractor Employees	%	Trips served on Dedicated Runs Operated by Other Contractors	%	Trips Served by Taxi Subcontractors	%
Eastern	356,314	42%	34,530	4%	448,163	53%
West Central	263,195	52%	16,503	3%	222,701	44%
Southern	663,179	59%	0	0%	466,945	41%
Northern	535,403	87%	5,351	1%	73,318	12%
Access Total	1,818,091	59%	56,384	2%	1,211,127	39%

One of the reasons underlying the high use of taxi subcontractors is historic, as Access Services “grew-up” with taxi companies providing much of the service, and evolving into paratransit companies. (The exceptions to this are MV and Keolis). Another reason for the increase in using taxi subcontractors is because the cost to deliver trips with taxis is much less expensive, owing primarily to the fact that the drivers are independent contractors. This is a primary reason why MV’s use of taxi subcontractors has escalated.

The trip-exchange strategy employed by the combined SGT/CTI scheduling staff underlies the 50,000 yearly trips that the two contractors serve on the other’s behalf. Meanwhile, MV in the Northern region is using Global more as a cost reduction strategy; this is because Global uses non-union drivers and has taxi subcontractors available.

Service Efficiency

The most common metric used for service efficiency is productivity (expressed as trips per revenue vehicle hour (RVH). As shown in the figure below, the overall productivity for FY 2016 is 1.45. Among peers, this is about average but should be considered a positive achievement considering (1) Access’ vast service area and long trip lengths, owing in part to the no-transfer policy within the LA Basin, and the long trips to/from the transfer point to the North County regions, and (2) vehicles coming back empty after serving an inter-region trip. The use of taxis also drives up overall productivity for two reasons:

- Taxis are used to serve peak overflow trips, trips in low-demand areas and times, long, out-of-the-way trips that are not ride-sharable with other trips, and to serve customers who have re-emerged after no-shows, as well as to respond to incidents and breakdown, to shift trips from dedicated vehicles running late -- helps to keep the dedicated fleet more productive.
- The revenue hours for taxis are equivalent to only the live passenger time whereas dedicated vehicles include most of the deadhead time going to/from pick-up and drop-off points in the RVHs. This is why the taxi productivity, shown in Figure 0-4 below, is so much higher than the dedicated fleet. And because the LA Basin contractors use taxis in a substantial way, the overall productivity is positively impacted.

Figure 0-4 | Service Productivity by Service Type and Region (Completed Customer Trips per Revenue Hour; FY16)

Region	Overall Trips per Revenue Hour	Dedicated Service Operated by Contractor Employee	Dedicated Service Operated by Other Contractors	Service Operated by Taxi Subcontractors
Eastern	1.57	1.21	1.06	2.15
West Central	1.37	1.12	.87	1.96
Southern	1.49	1.19	N/A	2.27
Northern	1.27	1.27	0.73	1.39
Antelope Valley	1.69	Not Applicable		
Santa Clarita	1.60	Not Applicable		
Access Total	1.45	1.21	.96	2.09

Service Quality Standards and Actual Performance

The figure below shows several service quality standards and how Access has performed against those standards. Access' report card is pretty good, with a few exceptions. Denials are virtually nonexistent. On-time performance is only a shade below Access' target of 91%. Reservations hold times – at 1:29 – is well below the two minute standard. The preventable accident frequency ratio is right at Access' target, noting Access has an aggressive standard by industry norms.

Figure 0-5 | Service Quality Standards and Actual Performance (FY16)

Metric	Standard / Target	Actual Average	Actual Range
Denials	<1.0%	0.20%	0.07% - 0.28%
On-Time Performance	91%	90.8%	90.1% - 96.2%
Missed trips	None	0.74%	0.51% - 0.90%
Excessively long trips	None	--	1.41% - 5.96%
Telephone Hold Time – Res	< 2:00 <5% calls <5:00	1:29 4.6%	0:41 – 1:55 1.4% - 5.1%
Telephone Hold Time – ETA*	<2:00 95% calls <5:00	3:39 24.9%	0:56 – 4:40 2.9% - 32.9%
Complaint Frequency Ratio (complaints per 1,000 trips)	4.0*	3.41	0.49 – 4.82
Preventable Accident Frequency (PAs per 100,000 total miles)	0.5	0.55	0.27 – 0.60

* Recently adopted by way of inclusion in the new West Central region contract.

Two areas with room for improvement are: telephone hold times for ETA calls, which are well above Access' two minute and five minute standards; and complaints, which are relatively high by industry norms. In both cases, however, there is one contractor in particular – Global – whose performance is skewing these averages. Global's ETA average hold time is 4:40, while 32.9% of its ETA hold times are over 5 minutes. Global's Complaint Frequency Ratio (CFR) is also highest at 4.82 complaints per 1000 trips. The new West Central region contract introduces standards for ETA hold times and complaints.

Cost per Trip

Access' operating cost per trip for FY 2016 was \$34.77. This is well below the average for larger ADA paratransit systems. While there are several factors that contribute to this achievement, including the diligent oversight efforts of Access Services and Access' providing all but a few of the vehicles operated in dedicated service, there are two overriding factors that contribute to this comparative low unit cost:

- (1) The predominant use of non-union drivers, particularly in the case of San Gabriel Transit, California Transit, and Global Paratransit. In contrast, the driver wages for MV are much higher. For dedicated services in paratransit, driver wage and fringe costs can be as high as 70% of the cost structure of variable costs, hence "driving" the cost of paratransit.
- (2) The predominant use of taxi drivers, who, as independent contractors, do not receive near the level and type of fringe benefits that the van drivers, as contractor employees, receive.

PEER COMPARASIONS

Twelve peer systems were chosen, based on size (ridership, service area size), service model (similar and different) and status (changing service models). Comparisons were then made, focusing on performance standards and actual performance, use of technology, and the cited benefits and challenges associated with the current or new service model. The twelve peers selected for the comparison were:

Figure 0-6 | Evaluated Peer Paratransit Systems

Location	Transit Agency	Paratransit Service
Atlanta	MARTA	MARTA Mobility
Boston	MBTA	The RIDE
Chicago*	Pace	ADA Paratransit
Dallas	DART	Mobility Management
Houston	METRO	METROLift
New Jersey	NJ Transit	Access Link
New York City	NYCT	Access-A-Ride
Oakland/East Bay	AC Transit & BART	East Bay Paratransit Consortium
Pittsburgh	Port Authority of Allegheny Co	ACCESS
Portland	TriMet	Lift
Seattle	King County Metro	Access Transportation
Washington, DC	WMATA	Metro Access

* For the purposes of this peer comparison, just the ADA paratransit service in the city of Chicago was used, as the suburban systems have very different service models.

How similar is Access to these peers in terms of ridership and the underlying demographics?

- Access has the second highest annual ADA paratransit ridership (behind New York City); its annual ridership is 2.5 times the peer average. This is even more remarkable when one considers that several trips that could be taken on Access are being made on local dial-a-ride systems.
- Access service area ranks fifth highest but its service area population ranked second highest (behind New Jersey).
- In service area population Access' ADA paratransit trip density (trips per square miles) ranks second highest, only behind New York City.

How similar is Access' service model to its peers?

- The systems in Boston and Pittsburgh also have a decentralized multi-carrier service model.
- Pace in Chicago recently migrated from a similar model, but recently added centralized scheduling and ETA call handling.
- While NJ Transit also has contractors in 6 zones, reservations and ETA call handling are centrally performed with transit agency and contract employees.
- MARTA in Atlanta recently outsourced most of its functions to a single company, but retained the reservations functions which continue to be performed in-house.
- Houston METRO performs all call and control functions in-house and contracts with two service providers.
- DART in Dallas recently switched from an in-house call and control center with one service provider to a single turnkey contractor, but it uses a taxi subcontractor to serve 70% of the trips.
- The transit agencies in Portland, New York, Seattle, and Washington all use call center managers – and in some cases, call and control center managers – while the Oakland/East Bay system uses a broker.
- The New York City model is a bit different as the call center manager performs reservations and handles ETA calls, while the transit agency performs scheduling; trips not scheduled onto dedicated vehicles (30% of the total) are sent to two brokers who disperse trips to non-dedicated service providers.
- Interestingly, King County Metro in Seattle is in the process of moving from a call and control center model to a single turnkey contractor owing to the reduction in the number of its service providers, while TriMet in Portland, under the same circumstance, with the same firm providing call and control center functions and providing service delivery in each of its three zones, has opted to retain its service model.
- The MBTA in Boston is in the process of changing service models as well, from a multi-carrier decentralized system to a call and control center manager model.

A comparison of Access' and peer systems key performance indicator (KPI) standards and achievements from FY 2016 are shown below.

Figure 0-7 | KPI Standards and Achievement Peer Comparison

KPI	Access KPI Standards	Peer KPI Standards	Access KPI Achievement	Peer KPI Achievement
Denials	<1.0%	None	0.2%	NR
On-Time Performance	91%	90% - 95%	90.8%	86% - 94.5%
Missed trips	None	0.5% - 1.0%	0.74%	0.1% - 2.0%
Excessively long trips	None	< 2%	1.41% - 5.96%	0.16% - 5.4%
Telephone Hold Time - Res	< 2:00 and 95% < 5:00	< 1:30 – < 3:00	1:29	0:36 – 8:05
Complaint Frequency Ratio (complaints per 1,000 trips)	4.0	< 2 -- < 5	3.4	0.7 – 4.0

Highlights of the peer comparison focus on service performance standard and achievements:

- **Denials** – Access has a denials standard of no more than 1.0%. No other systems really have a standard over zero, as that is certainly the goal. Access’ denials at 0.2% demonstrate that they are tracking denials, and there are relatively few.
- **On Time Performance (OTP)** – Access’ OTP standard is consistent with its peers and with industry norms: 90% for a 15 minute pick-up window and 95% for 30 minute pick-up, noting that Access has a 20 minute pick-up window, and a standard of 91%
- **Missed Trips** (see page 6-7 for definition) – Access does not have a missed trip standard or target threshold, and probably should adopt one. The two that reported a formal missed trip standard were Boston (0.5%) and Dallas (1.0%). Access’ percentage of missed tips from FY 2016 fall within this range.
- **Excessively Long Trips** – Access does not have a standard or target threshold for this either, and probably should adopt one. Access does have a procedure for comparing trips against the transit trip comparison, per FTA policy. With some leeway (of 0 to 20 minutes), it would appear that the overall average percentage of excessively long trips by Access contractors is under 5%, which seems to be a reasonable goal to adopt, especially given Los Angeles’ notorious congestion.
- **Telephone Hold Time** – Access’ standard is consistent within the industry, and its average hold time (for reservations) is well within this threshold. As mentioned above, attention does need to focus on reducing the ETA call hold time.
- **Complaint Frequency Ratio** -- Access had not adopted a CFR standard or target threshold until recently adding a 4.5 CFR to its West Central region contract. This is on the high side in relation to its peers, and Access might consider lowering this standard. As shown in the above table, Access’ CFR at 3.4 is well below this standard.

Peers were asked to offer their perceptions about their own service models, and we compiled these comments into the following lessons learned that are pertinent to Access:

- In large regions, using multiple contractors is a good practice. Generally, cost efficiencies stem from greater competition because smaller pieces of work tend to attract more proposers and are more manageable. In addition, a multi-carrier service model has more resilience: if a contractor defaults in a multiple carrier service model, it may be easier to expand the role of the other contractor(s) until an emergency procurement to replace the outgoing contractor is undertaken.
- Most of the peers who do have multiple service providers use a centralized call and/or control center model. Peers credit centralized models with better customer experience, information, and flexibility. Centralized reservations offers more direct control, and establishes a platform for the operationalization of conditional eligibility.
- If call center functions are to be transferred to the call and control center, the peers recommend modifying current contractor RFPs (in the meantime) to submit a cost proposal with and without the functions that may be centralized. In this way, a transit agency can better assess whether such a move will or will not reduce costs. They also add that moving to any type of centralized model is a significant change and can be disruptive for customers during the transition.

ISSUES AND OPPORTUNITIES

By way of the on-site interviews and service data analysis, we identified the following issues that, in one way or another, impact Access service.

Access contractors are finding it a challenge to fill driver positions. The economy is partly to blame for this. Simply put, there are other less stressful driving jobs that offer more competitive wages and fringe benefits. Even with the extraordinary recruiting and retainage efforts undertaken by the contractors, they are experiencing a net loss of drivers. In past years, the four largest Access contractors turned to taxi

subcontractors as a way to address this situation. However, taxi subcontractors are also finding it a challenge to attract driver because of competition from transportation network companies such as Lyft and Uber. The only good news is that more of the taxi drivers who have remained as such have expressed a desire to become ADA certified. Still, the net of taxi drivers is down as well.

Service inefficiencies associated with inter-region trips. With one exception in the current system, a vehicle that is making an inter-region trip cannot be assigned a return trip originating in the other region. Thus, these vehicles must deadhead back to the home region. If we subtract out the intra-region trips and the Eastern/West Central inter-region trips which already benefits from the trip-exchange strategy employed by the SGT/CTI schedulers, the number of inter-regional trips with deadheads reflect over 25% of the total trips. But it is important to understand that improvements to service efficiency have no immediate (mid-contract) cost benefits to Access, since contractors are paid by the trip. Improvements that do address these inefficiencies will come into play at re-procurement time.

ETA telephone access and double hold times for inter-zone trip customers. As mentioned above, the telephone hold times for ETA calls, based on both of Access' related standards, are very high. Access staff will need to work with the contractors to ensure that additional contractor staff, or telephone lines, are applied to this function, particularly in the Southern region, where Global has the highest ETA hold time among the contractors.

Yet another plausible reason why ETA call hold times are high is that current procedures for some of the contractors invite more ETA calls than perhaps would be made under different circumstances. Specifically, some of the contractors' call-taking staffs are responding to ETA request calls received before the pick-up window for that particular trip has ended. This is the opposite of the Access policy, which instructs customers to wait until the end of the pick-up window to place such a call, if needed. Many of the ETA calls that come in during the window might never need to be made with the vehicle arriving a few moments later and within the 20-minute pick-up window. The more calls that come in, the higher the average hold time. But if the call-takers keep on providing ETA information, the customers will continue to call early. Re-training is clearly warranted here.

Note that reduction of ETA call hold time should also result from the implementation of the Where's My Ride app. Also, while Access reservations hold time appears to be reasonable, it may not be reasonable for customers requesting inter-region trips, who because of current policy, must endure two wait times. Moreover, the customer may also experience a doubling of the call time as s/he needs to repeat the same trip information (only in reverse) that was already provided to the first contractor. This is clearly an inconvenience for customers, especially in comparison to other ADA paratransit systems: we know of nowhere else where there is a similar call transfer for inter-region trips. In addition, all Southern region customers and not just the inter-region travelers, are experiencing double hold times for ETA calls because they are first calling MV and then are being transferred back to Global, where they experience a second hold time, and as mentioned above, this hold time is the worst among the contractors. However, this issue with Southern Region ETA's will be resolved once the transition to Trapeze is complete.

Transfer Trips. It is not uncommon for the three to four timed transfers to be delayed because of traffic congestion. So either the customers already onboard are delayed and/or the incoming customers are delayed further if the driver of the waiting vehicle is given direction to proceed before the delayed van gets to the transfer point. The provider or the customers then will call OMC, where the OMC will coordinate another trip with the provider, or the OMC can dispatch one of their back-up service providers to serve the customer. The importance of this issue must be considered in the context of the relatively small number of transfer trips (550 transfers per month), and the fact that these are premium service trips (and not ADA paratransit trips).

Facility Siting and Provision. Existing Access contractors either have long-term leases or own their operations facilities outright. Increasing industrial land costs will likely increase the lease or purchase

price for the large parcels required for Access vehicle fleet yards. Contractors who own their facilities or operate under long-term lease agreements may have significantly reduced costs compared to potential service contractors without existing land agreements. The cost to lease or purchase land for operations facilities may therefore reduce the number of potential bidders for future Access service contracts, and by extension the competitiveness of the proposed rates (because there is less competition). To ensure that a wider range of potential service contractors could operate reliable service in the LA Basin, Access could choose to purchase land for operations facilities. With this model, all potential bidders would have access to the same operations facilities at the same cost, evening the playing field for new entrants to the market. Access would also ensure more stable service reliability into the future, especially as congestion increases throughout the service area. Alternatively, Access could work with fixed-route operators in Los Angeles County to identify available space to store Access vehicles in their existing vehicle yards or other agency-owned properties.

FLEET NEEDS AND SERVICE MIX

The overall vehicle requirements for Access Paratransit are substantial, totaling 910 vehicles over the entire six year period from 2017 to 2022, peaking at 258 vehicles in 2019. In fact, from FY 2018 forward, Access will need to acquire at least 122 vehicles each year to maintain an adequate fleet size, using current benchmarks and approaches to determining fleet size. Over the six-year period, the capital cost for this fleet is estimated at almost \$50 million.

However, we see below that the average utilization of Access-owned vehicles is not as high as might be expected at less than seven vehicle hours per day. This is partially due to the focused reliance on taxi subcontractors as a cost-reduction strategy for the LA Basin contractors (see the Non-Dedicated Service Providers % below) in combination with how the contractors are paid (per trip rate).

Figure 0-8 | Service Mix and Vehicle Utilization by Service Region

Region	DS Trips	NDSP Trips	DSV Utilization per Day
Eastern	44%	56%	5.17 VH per day
West Central	54%	46%	6.89 VH per day
Southern	59%	41%	7.24 VH per day
Northern	68%	32%	7.77 VH per day
Total LA Basin Region	57%	43%	6.72 VH per day

DS – Dedicated service providers

NDSP – Non-dedicated service providers

DSV – Dedicated service vehicle

Thus, instead of using the current method of allocating vehicles to contractors, which is based on a ratio of one vehicle for every 400 trips served per month, Access should develop a methodology based on using vehicles for more hours a day. At 7.25 hours per day for example, Access could reduce its replacement needs by 8%, which is equivalent to about \$4 million in capital costs over the six-year period.

MANAGEMENT AND OVERSIGHT

Access management and staff do a very good job overseeing operations, supporting the operations via vehicle inspections, safety inspections in the field and contractor site visits, and contracting. The extent of their data management is comprehensive and effective, with ATBOS being used to consolidate reporting and preparing draft invoices for the contractors, and the ongoing assessment of how the contractors are

doing relative to systemwide standards and other contractors. Some of the more prominent issues that arose in the course of interviews and observations include the following:

Operations – Operations Service Monitors (OSMs) currently monitor 75 reservations calls per month, which consume about 4 days per month (or about 20% of their time). By focusing just on newer reservation agents, their time that is focused on this could be halved, and redirected to other needs. In addition, this report should be reformatted to report information pertinent to the major pull-outs, and should report on the number of runs that are closed the evening before, the number of runs that are closed because of driver call-outs, and the number of those runs that were covered by extra-board drivers and the ones that were not.

Fleet Design and Maintenance - The significant increase in the Access fleet has put a strain on this department, resulting in the need to draw assistance from the Road Safety group. Possible expansion of this staff should be considered. Access should also consider acquiring radios and MDTs (or tablets) to achieve potential cost savings and consistency.

Road Safety - The addition of staff in the Fleet Design and Maintenance group should free up the Road Safety group to perform its tasks.

Internal Wages - Access's staff shared with the consulting team some examples of positions that Access has had trouble filling because the wage scale did not match the experience required. While a detailed wage comparison is beyond the scope of this project, we do recommend that a wage review/analysis be undertaken by a local consulting firm experienced in this area.

ASSESSMENT OF REDUCED RESERVATIONS HOURS

Reservations for trips in the LA Basin and Santa Clarita are taken from 6:00 a.m. to 10:00 p.m. seven days a week (except on Sunday in Santa Clarita, when the line closes at 8:00 p.m.). This substantially exceeds the ADA requirement, which is to take reservations “during at least all normal business hours of the entity’s administrative offices, as well as during times, comparable to normal business hours, on a day when the entity’s offices are not open before a service day.” “Normal business hours” refers to times when administrative offices are open. This is not a precise concept, since administrative offices are not necessarily open to the public, but it is usually taken to mean 8:00 a.m. to 5:00 p.m.

Taking reservations for extended hours is a great convenience to customers, who may be occupied with their daily activities during the day, or may rely on caregivers who are not available during the day. Further, since Access only takes next-day reservations, customers must find time to call for reservations the exact day before they need to travel. These considerations help explain the daily pattern of reservations calls, which is greatest during the evening hours. While overall call volumes are lower on Fridays and weekends, the overall pattern is that the most popular times are at the end of the day between 7:00 p.m. and 10:00 p.m.

Because of limitations in how agents are scheduled, the best use of agent time will be possible when call volumes are fairly even throughout the day. Reducing the reservations hours would not be likely to create a more even pattern of call volumes, and might create an even bigger end-of-the-day rush, which would be less efficient to serve than the existing pattern.

ASSESSMENT OF EXPANDED CORRIDORS

Access Services requested an analysis of the impact of expanding the service area beyond the ADA minimum, and, while such a geographic expansion might have a greater impact on the Santa Clarita and Antelope Valley regions, our analysis focuses on the LA Basin region because it reflects 94% of the trips. We analyzed the impact of extending service to cover locations within 1.5 miles of all fixed-route services,

i.e. twice the required buffer around fixed routes. The analysis assumed that the proposed change was essentially equivalent to adding a three-quarter mile buffer around the existing service area. Most of the expansion is agricultural or undeveloped area. The most significant impact would be in the east and south, where the Access service area borders on portions of Orange, Riverside, and San Bernardino counties.

There would also be some increase in the area served due to filling the holes that are visible within the existing service area. However, these are mostly parkland or other unsettled areas, much of it with few or no roads.

The increase in trips would increase the purchased cost of transportation as well as oversight and administration costs by Access. The increase in trip length would also increase purchased cost, but would have minimal impact on Access oversight and administration, aside from a slightly accelerated vehicle replacement schedule and a small increase in vehicle liability cost. A 3.9% increase in trips would add about \$5.3 million to budgeted FY 2017 operating costs. A 3.5% increase in cost per trip, applied to existing trips and added trips, would add about \$4.3 million to the budgeted cost of purchased transportation in FY 2017.

SAME-DAY SERVICE

Currently Access customers can reserve trips one day in advance, a model known as next-day service. This is the requirement established by regulations implementing the paratransit provisions of the ADA. Transit operators are free to offer services that exceed the ADA requirements, such as same-day reservations, but these cannot substitute for service meeting the ADA requirements, which must always be provided. So, any provision for accepting reservations on the day of service would be above and beyond the ADA requirements, and would need to be offered in addition to the existing next-day service. Looking forward, three types of possible same-day service were analyzed: space-available same-day service, supplementary alternative same-day service, and same-day Access. Of the three, it would make the most sense to implement a supplementary alternative service, as the first type really applies primarily to a system running dedicated service, and the third type would induce a significantly larger demand. Indeed, A 2007 TCRP report reviewed an analysis of data from that time and suggested that a 20% to 30% increase in demand might be expected.²

A supplementary alternative service, even if provided to ADA paratransit customers, does not fall under ADA paratransit guidelines. This is because:

- The decision to use the alternative service is totally up to the customer
- Transit agency can offer/suggest a service option without steering ADA paratransit customers away from the ADA paratransit service
- A customer choosing to use the alternative service for a trip does not impact the customer's ADA paratransit eligibility or right to schedule trips on ADA paratransit service
- None of the vehicles used are owned, operated or controlled by the transit agency

A supplementary alternative service would benefit both customers, providing another mobility option, and Access, potentially reducing demand for ADA paratransit, especially if (a) the diversion of Access paratransit trips to the subsidy program does not result in a significant decrease in productivity of the dedicated ADA operation; and (b) the savings from the diverted trips (i.e., the difference between the higher subsidy of the ADA paratransit service and the lower subsidy of the subsidy program) is more than

² TCRP Report 119: Improving ADA Paratransit Demand Estimation, page 80, citing the 1991 Regulatory Impact Analysis of ADA, prepared for DOT by Hickling Corporation.

the additional subsidies associated with any new trips generated that would not have been taken on the ADA paratransit service.

If Access were to implement such a program, presumably on a pilot basis, it might make sense to partner with Transportation Network Companies (TNCs) such as Uber and Lyft rather than taxis, so as not to detract from the valuable role that taxis already perform for Access.

TECHNOLOGY ASSESSMENT

As shown below, the Access contractors currently use a variety of software systems in support of their operations.

Figure 0-9 | Paratransit Software Systems Supporting Contractors' Call Center Functions

Region:	Eastern	West Central	Northern	Southern	Santa Clarita	AV
Contractor	SGT	CTI	MV	Global	City/MV	Keolis
Reservations	TSS/5M*		Trapeze**		Trapeze	ADEPT
Scheduling			Trapeze	DDS***	Trapeze	ADEPT
Dispatch	TSS/5M	TSS/5M	Trapeze	DDS***	Trapeze	ADEPT
Customer SDI	TSS/5M*		Trapeze	DDS***	Trapeze	ADEPT
IVR Booking	Yes		No	No	No	No
Web Booking	Available, not being used*		Available, not being used**		Available, not being used	Available, not being used

* SGT and CTI have combined their reservations, scheduling and same-day issue functions at SGT's facilities, using the same staff for both. The dispatch functions are performed separately by SGT and CTI dispatchers at the SGT and CTI facilities, respectively.

** Global contracts with MV (in the Northern region) to perform the reservations function for the Southern region. While Southern region customers also call MV for ETA/trip status calls, call takers for MV transfer these calls to Global dispatch.

***Scheduled to switch to Trapeze in 2nd half of 2017

Noting that 95% of the Access ridership is to/from the LA Basin regions, and that the Southern region is to complete the switchover to Trapeze by the end of 2017, the main paratransit scheduling software used will be Trapeze and 5M, a newer system developed by TSS Wireless, which also developed the ATBOS reporting system used by Access.

The contractors are also making use of IVR for imminent arrival calls, and in some cases for trip booking. Access is also developing a Where's My Ride? app that customers will be able to access to get up to the minute ETAs and the location of the vehicle to which their trip has been assigned.

With the number of paratransit software products soon to be reduced to two (for all but the Antelope Valley), this raises the obvious question as to whether Access could benefit from having all of the service contractors use a common technology platform for their operations. It also raises the question of whether it would be feasible to have all of the contractors use such a common platform. With a common database, it becomes possible for the software application instance in each service region to be aware of the trips of the other service regions and know when out-of-region trips were scheduled to be transported to or through each service contractor's home service region. This would make it possible for the scheduling system to link cross-region trips together on a single vehicle tour, reducing the amount of deadheading and empty backhauling. It also bears emphasizing that if there were a common technology platform for all of the service contractors, the region's system could migrate to a centralized call (and control) center if this is otherwise beneficial. If Access were to standardize today on a common platform by selecting between Trapeze and the 5M system, a formal evaluation process should be initiated with well-defined criteria for evaluation.

A similar move to a single, centralized telephony platform is essential in the immediate term. The current provider-focused system works reasonably well, and the move to a single telephony platform will not generate substantial benefits unless it is associated as well with a different approach to service regions and

the relationship of providers to such regions. Today, all key data elements from each of the provider’s telephony systems (their ACD data) is transferred on a daily or more frequent basis to a central data repository at Access headquarters. It can be stored and analyzed in this data repository, and that is in fact what occurs. At the same time, if the current service model is retained, it may make sense for Access to begin planning for a future in which there is only a single phone system hosted in the cloud, as that approach will provide the most flexibility and functionality for the role of the phone system in the overall technology solution.

The ATBOS system is used for analysis and reporting and does a good job consolidating the service information from the contractors. Locally developed for Access, ATBOS is a very impressive piece of technology, with functionality not found in anything else in the ADA paratransit software market. In addition, the Tableau analysis/reporting tool provides the in-house data analysts with strong analytic reporting capabilities.

The SmartDrive vehicle monitoring system is now in all Access vehicles and provides support for monitoring drivers, supporting accident and incident investigation, and resolving complaints.

FINANCIAL ASSESSMENT

The recent history of expenditures for paratransit operations has been summarized and combined with a forecast of paratransit ridership to create a financial projection. The purpose of this projection is to serve as a baseline for analysis of proposed policy and service changes. In this case “paratransit operations” includes all expenses connected directly or indirectly with provision of paratransit service. It does not include the cost of ADA eligibility screening, Access Services activities as CTSA, or general administration.

Total actual expenditures and passengers for the five years ending with Fiscal Year 2016, along with budgeted expenditures and expected passengers for FY 2017, are shown below, followed by projected financial needs for FY 2018 through FY 2022.

Figure 0-10 | Paratransit Operating Costs Trend

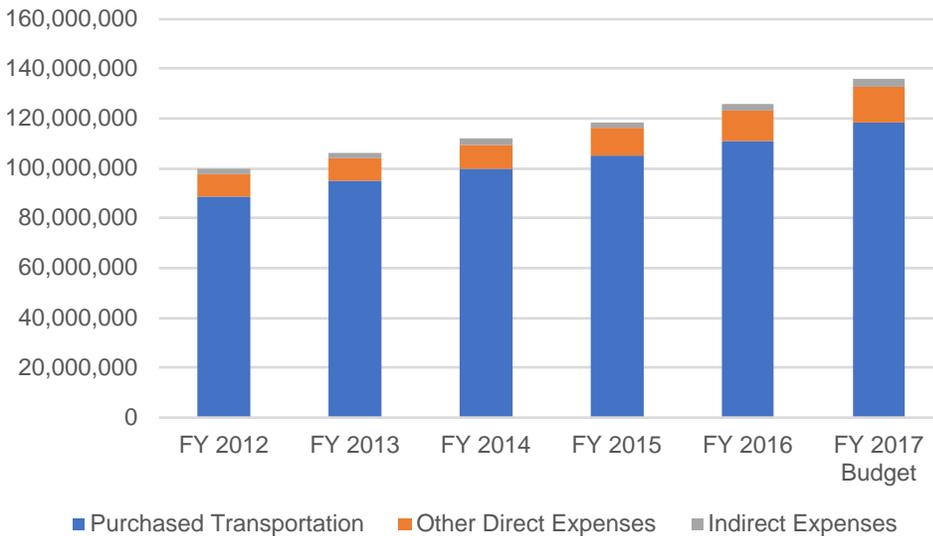


Figure 0-11 | Operating Costs and Passengers (FY 2012 to FY 2017)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017 (Budget)
Total Cost of Paratransit Operations	\$99,549,680	\$106,228,138	\$111,874,623	\$118,179,282	\$125,615,887	\$135,935,408
Annual Increase		6.7%	5.3%	5.6%	6.3%	8.2%
Passengers (total boardings)	3,275,021	3,481,204	3,794,923	4,092,766	4,334,872	4,638,105
Annual Increase		6.3%	9.0%	7.8%	5.9%	7.0%
Cost per Passenger	\$30.40	\$30.51	\$29.48	\$28.88	\$28.98	\$29.31
Annual Increase		0.4%	-3.4%	-2.1%	0.4%	1.1%

Figure 0-12 | Detailed Projected Operating Costs and Passengers (FY 2018 to FY 2022)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Total Cost of Paratransit Operations	\$163,043,181	\$177,570,820	\$193,724,621	\$211,614,808	\$231,211,246
Annual Increase	19.9%	8.9%	9.1%	9.2%	9.3%
Passengers (total boardings)	4,799,000	5,137,000	5,508,000	5,913,000	6,349,000
Annual Increase	3.5%	7.0%	7.2%	7.4%	7.4%
Cost per Passenger	\$33.97	\$34.57	\$35.17	\$35.79	\$36.42
Annual Increase	15.9%	1.7%	1.7%	1.8%	1.8%

Note that the projected financial needs take into account the upcoming increases in minimum wage. It is important to remember that the cost per passenger will likely still be one of the lowest in comparison with Access' peers.

ALTERNATIVE SERVICE MODELS

We have identified six service model alternatives – some making very small changes and others providing a more significant change – that address some or all of the key issues identified in our assessment, particularly the service inefficiencies and customer call inconvenience that both stem from the inter-region round-trip policy. Prior to developing the alternative service models, we first assessed the extent of inter-region travel.

Figure 0-13 | Inter-Region and Intra-Region Weekday Trips (October 2016)

Pick Up Region	Drop Off Region						Total Trips	Percent of Trips	Trips to Other Regions	Pct. to Other regions
	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita				
Eastern	42,147	6,705	7,336	4,884			61,072	26%	18,925	31%
West Central	6,159	14,635	11,616	3,855	1	1	36,267	15%	21,632	60%
Southern	6,872	11,773	58,386	1,857			78,888	33%	20,502	26%
Northern	4,795	4,757	2,306	35,224	1	2	47,085	20%	11,861	25%
Antelope Valley		1		350	11,033	6	11,390	5%	357	3%
Santa Clarita				205		2,737	2,942	1%	205	7%
Total Trips	59,973	37,871	79,644	46,375	11,035	2,746	237,644	100%	73,482	31%

In all, 31% of weekday trips went between regions. The West Central region had the highest percentage of weekday trips going to other regions (60%), presumably because customers traveling into the West Central region from all of the other regions require return trips. But, of the four regions in the LA Basin, the West Central region also has the fewest trips originating in it.

A detailed analysis indicates that if the inter-region return-trip policy was not in place, a reduction in revenue vehicle hours of between 9% and 14% (but closer to 9%) could be attained.

The consulting team developed six alternative service models:

Alternative 1: Revised Service Region Boundaries - The current regional boundaries of the LA Basin regions would be revised while maintaining the current number of regions and contractors, and current operating methods. These boundary changes would be intended to reduce the number of inter-region trips.

Alternative 2: Revised Number of Regions - This alternative maintains the general service model in place, but replaces the four regions of the LA Basin with three larger regions or five smaller regions.

Alternative 3: Targeted Inter-region Operation - The current regions and operating methods would remain unchanged, except that all of the contractors would carry trips both going to and returning from selected **high-volume destinations** in neighboring regions. In the case of destinations in the West Central region, which is relatively small in area, these high-volume destinations might be anywhere in the region. In the case of the other regions, high-volume destinations would most likely be limited to locations near the regional boundaries.

Alternative 4: Core Overlap Area - This alternative involves creating a “Core Area” circumscribing the most frequented common destinations within and near the West Central region (as suggested by the trip data). Access would retain three – and not four – contractors to serve the LA Basin. One each would be assigned to the Northern, Eastern, and Southern region, as they are now. The Core Area would be an overlap area served by all three contractors, so in a sense, the Core Area would be included in each of the three regions. Customers in the Northern, Eastern and Southern regions would call their home provider for all trips. Round trips anywhere in the home region or the Core Area would be booked in one call and served by one provider. Customers in the Core Area could call any contractor for trips within the Core Area, while for trips to another region, they would call the home provider for that region. This arrangement would create one-call/one-contractor service for the 60% of LA Basin inter-region trips that go to or from the West Central region. Inter-region trips not involving the Core Area (for example between Eastern and Northern regions) could be served as they are now (with a transfer of the customer’s trip reservation call to the contractor serving the return trip), or the home contractor could be required to book and provide the entire round trip. These trips account for the remaining 40% of all inter-region trips. Requiring one-call/one-provider service for inter-region trips outside of the Core Area would be possible at any time and does not depend on creation of an overlap area, so that possibility is not evaluated further at this time.

Alternative 5: Centralized Call Center - Under this alternative, a centralized call center would replace the SGT/CTI call center, the MV/Global call center, and the Keolis call center. Potentially it could also replace the MV call center in Santa Clarita, although for the purposes of these analyses, we have assumed that the way in which ADA paratransit trips are booked, scheduled, and dispatched will remain the same in Santa Clarita because it is a coordinated system, with ADA and other paratransit co-mingled. The functions performed in this call center would include reservations and handling ETA calls for the five regions. Thus, for those five regions, there would be no transferred calls for round trip requests to other zones. Depending on the capabilities of the software used, the call center staff may also have to perform preliminary scheduling in order to give a customer a confirmed pick-up time. This would be the approach for example if Trapeze was used; with 5M, confirmed pick-up times could be provided to the customer, as they are in the SGT/CTI call center, without having to schedule a trip to a specific run. In either case, the service providers would still be responsible for *final* scheduling and dispatching.

Alternative 6: Centralized Call and Control Center - Under this alternative, all four primary call and control functions (reservations, scheduling, dispatching, and handling customers’ same-day issues) would be centralized under one roof for the LA Basin regions, letting the current model for Santa Clarita and the Antelope Valley remain intact. For brevity, the new entity is referred to as the “control center.” The control center would have similar benefits as described for a centralized call center but with more efficient schedules, a more consistent customer experience with no need to make multiple bookings for a single round trip, and improved ability to operationalize conditional eligibility as part of the reservations process. The primary additional benefit of a control center is that the efficiency of vehicle and driver utilization should be even greater, since all scheduling and day-of-service adjustments would be coordinated. There are two ways a control center could be implemented: (1) A single contractor could directly perform all of the functions from the get-go, or alternatively, (2) Dispatching would remain part of the service provider contracts, but the contractors’ dispatchers would be housed with the call center employees in the same facility.

Of the six service model alternatives, the two that appear to offer the greatest potential savings are Alternative 4, Core Overlap Area, and Alternative 6, Centralized Call and Control Center, as summarized below. Alternative 6 has the additional feature of allowing for more effective screening based on conditional eligibility. However, it also is the riskiest of all the alternatives, involving a major restructuring of operating methods, the expense of creating an entirely new operating function, and dependence on the expertise of a single contractor to operate the new call and control center. For this

reason, we consider Alternative 4 more realistic and worthy of further consideration. It does not exclude screening based on conditional eligibility, which can still be done “offline” by Access staff beginning with the most frequent riders, resulting in notations to be put in customers’ data files to be accessed during the reservations process. Effective implementation would require software changes, ideally a common software platform for all providers, which is also the case for Alternative 6. Alternative 4 would also involve significant change, but would not affect contractors’ fundamental operating methods.

Figure 0-14 | Potential Annual Savings and Issues by Service Model Alternative

Alternative	Potential Annual Savings	Issues
1. Revised Service Region Boundaries	None	
2. Revised Number of Regions	None	
3. Targeted Inter-region Operation	To be determined	Depends on analysis of specific targeted destinations.
4. Core Overlap Area	\$4.4 million (3.9%)	Long lead given new West Central Contract.
5. Centralized Call Center	\$1.8 million (1.6%)	Moderately High risk
6. Centralized Call and Control Center	\$4.3 million (3.8%)	Highest risk alternative

Alternative 4 would most likely result in elimination of a separate West-Central contract. Since a contract for this zone was just awarded, there would be a long lead time for implementation. However, Access could proceed to test the concept behind this alternative by adopting Alternative 3, Targeted Inter-Regional Operation. If analysis shows that there are significant opportunities for operators in the non-central zones to efficiently serve both going and returning trips to certain locations in the West-Central zone, and if experience over several years confirms that these efficiencies can be achieved, then Access could plan a phased transition to the new method of operating represented by Alternative 4.

Alternative 5 also provides a significant savings – not as much as Alternatives 4 and 6 – but significant nonetheless, and also presents a prospective pathway to Alternative 6, should Access be interested in pursuing Alternative 6 in the future. Alternative 5 would require a common software platform, and the particular software chosen will likely have a material impact on the call center manager’s role.

SUMMARY OF PRELIMINARY RECOMMENDATIONS

Service Performance Standards

Access should immediately adopt new service performance standards for the following and ensure that there are procedures in place for identifying patterns of performance issues should standards not be met in a particular region.

- Missed trips: Goal should be to be under 0.5%; trigger for penalties - over 1.0%
- Excessively Long Trips: Under 5%
- Hold Times: Adopt same standards for ETA calls
- Complaints: Goal should be to be under 3.0 per 1K trips; trigger for penalties - over 4.5 per 1K trips

It is suggested that service goals and triggers for penalties do not have to be one in the same, as is the current practice at Access. Also, while we favor an immediate adoption of these standards, their adoption should be reviewed by the TPAC and the CAC, and, if they do trigger penalties, they can be worked into

each contract on a staggered basis when regional contractors are procured. In the case of renewing option years, it is suggested that Access consider including the new standards (and penalties, if appropriate) as an amendment, especially if re-procurement is years away.

Management and Oversight

OSMs are currently spending about 20% of their time monitoring reservations calls. It is recommended that this effort be reduced by focusing monitoring on new reservations agents, and otherwise triggered by a complaint.

The OSMs conduct quarterly pull-out vehicle inspections, which are also conducted by the Access Safety and Fleet division, in addition to some of the contractors' own inspections. Access should determine whether these multiple layers of inspections are redundant, or whether the content of the inspections is different enough to justify keeping all three inspections. This exploration should be conducted in the context of the overall staffing of OSM functions, which may be deficient given the broad range of tasks for which they are responsible.

The Daily Operations Report (which reports on yesterday's service) sent by each contractor to Access staff is not particularly useful because the information includes totals for the day. It should be revised to reflect periods of the day and the extent to which runs are covered by extra-board or back-up drivers or closed.

Because there are contractors who have trained their reservations agents and dispatchers to respond to ETA calls received before the end of the pick-up window (contrary to Access policy), we recommend a campaign to retrain reservations agents and dispatchers accordingly. Before and after monitoring of the level of ETA calls and ETA hold time for each contractor retrained should be undertaken to determine whether this retraining was successful.

Due to its success in alleviating no-shows and missed trips, Access should consider expanding the designated pick-up location signage program. There are currently 73 signs placed throughout the service area.

Fleet Design and Management

Access should revise its needs assessment and vehicle allocation methodology, based on an increased vehicle utilization target of 7.25 hours per day. It is estimated that this potentially could save Access \$4 million over a six-year period. This methodology would replace the current methodology that is based on one vehicle per 400 monthly trips. One of the hallmarks of the suggested methodology is that it incorporates each contractor's respective use of taxi subcontractors.

Access should evaluate the option of acquiring radios and MDTs internally in order to achieve potential cost savings and consistency.

Pending legal review, Access should reconsider activating the SmartDrive audio function. This would enable staff to resolve customer complaints concerning driver conduct; it also will be important in the event of any future litigation.

The significant increase in the Access fleet has put a strain on this department, resulting in the need to draw assistance from the Road Safety group. We recommend consideration of staff expansion for this group.

Policy Development

Access should review individuals who frequently no-show to determine if these individuals' no-shows are associated with subscription trips. If the customer is abusing the standing order program (even to the

point of cancelling one leg of the no-show and then requesting a new trip at a preferred but only slightly-different time), Access should consider looking into such instances, and if warranted, revoke the customer's subscription trip, noting that there is nothing in the ADA that requires a system to have subscription service. If Access pursues this, it should revise its no-show policy.

Contractor Procurement

To provide stability and to potentially increase the number of proposers, Access should either (1) procure its own facilities over time; or (2) consider adding contract language that would allow the agency to assume the facility lease if the contract is awarded to another firm. This has been added to a contract that the MBTA in Boston recently used to retain a call and control center manager. The concept is fairly straight-forward: if, for some reason, a contract ends before the end of a lease, Access would have the right to take over the lease. And, similarly in cases where a contractor owns a facility, the facility is dedicated to Access Paratransit use, and Access has paid for the full cost of a property over time, Access should have the right to use it if the contract ends.

The current practice of separating the cost evaluation group from those individuals conducting the balance of the evaluation should be reconsidered. We recommend that the same group of individuals is responsible for all evaluations so that the connection between cost and quality can be better integrated. This would require that the evaluation be conducted sequentially. If Access does not pursue this, it should have at least one or two staff, and/or a consultant, who can bridge the gap between the two evaluations, as information gleaned in the technical proposal informs the cost proposal.

Internal Wages

Access has had difficulty in attracting appropriately experienced applicants, especially those that require a high level of experience. While a detailed wage comparison is beyond the scope of this project, we do recommend that a wage-review/analysis be undertaken by a local consulting firm experienced in this area.

Driver Wages

The financial projections in the report do not assume a significant escalation of driver wages (over and above what results from the minimum wage increase) to combat the net loss of drivers currently being experienced by the Access contractors. While the minimum wage increase will help, it will likely have a neutral effect on the extent of more competitive opportunities for drivers. We believe that an additional wage increase for drivers is critical to the sustainability of the Access Paratransit in its current form, and therefore recommend that a driver wage study be undertaken.

The Role of the OMC

Currently, the OMC serves a safety net for stranded customers. OMC then finds a safety net subcontractor to serve the trip at an additional cost. This seems to be a confusing and unnecessary role, since customers are confused about when to call the OMC. This decision can also result in further delays. We believe that the region's contractor should be responsible for the trip; this keeps the accountability clean. We also suggest a possible doubling of the penalties for Late 4 trips to cement the point and induce more attention to these trips.

Alternatively, if the current system remains, we suggest that the per trip cost of OMC plus the cost to serve the trip be doubled and invoiced to each carrier, over and above any missed trip penalties.

We also see a revised role for the OMC – that being to coordinate all the transfer trips, from request to execution. This will free contractors from the inordinate amount of time required to coordinate these trips with other contractors.

Technology

The benefits of having a common software platform seem to outweigh the disadvantages. Access should move toward a common platform of paratransit scheduling software; this should involve an unbiased evaluation of each software under consideration, if not a formal procurement. Note, however, that neither of the alternative service models recommended for further consideration requires a common platform.

Alternative Service Models

Alternative 4 is recommended for further consideration because it blends significant costs savings via improving service efficiencies with improved customer convenience. If it is viewed as too disruptive, Alternative 3 can be pursued as a way to test the waters. Alternative 6, with the highest savings, is seen as too disruptive. The more moderate level of savings associated with Alternative 5 may be worth the more moderate level of disruption from Alternative 5, and so we also recommend Alternative 5 for further consideration. And the insignificant savings from Alternatives 1 and 2 do not justify the change.

Same-Day Service

If Access is interested in providing same-day service for its ADA paratransit customers, it is recommended that this not be provided through Access Paratransit. Rather, we recommend that a TNC-based alternative subsidy program be implemented as a pilot program, similar to the MBTA's pilot program in Boston.

1 INTRODUCTION

Access Services (“Access”) is the designated agency in Los Angeles County for coordinating and providing ADA complementary paratransit services called “Access Paratransit” on behalf of 45 member municipalities and public transit agencies. Originally created in 1994 as a private, non-profit company, it is now a public agency.

Access Paratransit has the second³ largest ADA paratransit ridership in the country. Over four million ADA paratransit trips are served annually, with an average of 11,000 passenger trips per weekday, over a vast service area of 1,325 square miles. The service fleet consists of 848 dedicated vehicles, all but a few provided by Access, plus approximately 1,300 certified taxicabs operated in semi-dedicated and non-dedicated fashion.

Because the area is so large, it has been divided up into six regions. The six regions consist of (1) four regions (Eastern, West Central, Northern and Southern) that cover the ADA paratransit service area in the LA Basin, and (2) two other North County regions: Santa Clarita and the Antelope Valley, where there is a natural division between them and the LA Basin. In the LA Basin, despite some natural boundaries, the boundaries for the four regions are more arbitrary, and in fact have been adjusted, especially with respect to the West Central and Southern regions.

ADA paratransit is provided through contracts with six private contractors, each of which intakes reservations for trips emanating from their assigned region, performs scheduling and dispatching for those trips, responds to customers’ same-day issues (e.g., ETA/trips status calls) and operates service – both via dedicated service using vehicles primarily provided by Access and, for the four contractors in the LA Basin, via the use of taxi subcontractors.

In FY 2016, approximately 95% of the Access trips⁴ were served by the four contractors in the LA Basin regions, with around 40% of those trips served by numerous taxi subcontractors. Only two of the larger systems in the peer group had a higher usage of taxis, with most of the other peers using taxis in a much more modest fashion.

Another truly unique aspect of the Access service is that customers calling to request inter-region trips are actually transferred to the other region’s contractor for intake of the return trip request. Also, while trips between the four regions in the LA Basin do not require vehicle-to-vehicle transfers, trips to/from the two North County regions (Santa Clarita and Antelope Valley) do.

The current service structure, with contractors assigned to regions and performing all primary functions derives in large part from the historical circumstances under which Access was created and grew. From the start, Access divided service into manageable pieces, the purpose of which was to attract more potential contractors to the system (to enhance the competitiveness of the procurements) but also to ensure

³ Access’s annual ADA ridership is second largest if Pace’s ADA paratransit system in the city of Chicago is considered as a separate system, i.e., separate from Pace’s other systems in the Chicago’s collar counties. Access has the third largest ADA paratransit ridership if all of Pace’s different systems are consolidated.

⁴ A “trip” refers to a trip made by an Access-eligible customer, as well as certification trips. “Ridership” refers to trips made by Access-eligible customers, PCAs, guests, and children, but does not include certification trips.

clear accountability for all aspects of service. Indeed, over the years, this service model has increased the pool of potential contractors, including the local companies that operate much of the service. In addition, this approach avoided issues that could have arisen if Access had needed to acquire paratransit software and required all operators to use that same software.

At the same time, this regionally decentralized system raises some obvious issues. Even though Access has developed extensive tools for monitoring service, the agency's ability to monitor service is not as administratively easy as a system where all of the contractors are on the same paratransit scheduling and dispatching platform. Inefficiencies result when contractor vehicles take trips beyond their home region and have to deadhead back, while inconsistencies in service may arise from one contractor to another if one considers the inter-region round trip.

Since the current service model was established, there have been developments in the availability and reliability of technology, especially in the areas of vehicle communications and dispatching, but also in telecommunications and scheduling practice.

The industry has also matured so that large, national (even multinational) contractors offer services and experience that were not available 20 years ago. Meanwhile, other transit agencies have experimented with a variety of service models that provide a rich source of experience that can be mined for potential application in Los Angeles County.

For all these reasons, Access retained Nelson\Nygaard Consulting Associates and sub-consultant teammates (AMMA Transit Planning and DemandTrans Solutions) to explore alternatives to the current methods of operation and oversight to see if improvements are possible.

KEY ASSESSMENT AREAS

As part of the study, Access requested that the Nelson\Nygaard team focus specific attention on the following key areas, with an eye on changes or improvements that would enhance cost efficiency and/or service quality:

- Policies, Practices, and Procedures – These assessments focus on potential improvements to existing policies, practices, and procedures. Specific focus is placed on changes to reservations hours and service area size.
- Fleet and Service Mix – These assessments focus on fleet utilization factors and how they are affected by the use of taxi subcontractors. Fleet projections and potential cost savings are estimated.
- Technology – This assessment focuses on the functionality of the four paratransit scheduling software systems currently in use (DDS, ADEPT, Trapeze and 5M) as well as the effectiveness of the in-vehicle equipment, the radio system infrastructure, the telephone system and supporting software, and the IVR system. This area of assessment will also include identifying the pros and cons of migrating to one software package, presumably either Trapeze or 5M, in general and whether or not some of the alternative service models require a common platform.
- Management and Oversight – Our assessment includes identifying the areas where staff is over- or under-burdened and where the organizational chart and/or job descriptions adequately match—or do not match—reporting chains and job responsibilities, respectively.
- Service Model Structure – These assessments focus on key issues and identify how alternative service models might address those issues. Included in the assessment of these alternatives is exploring the pros and cons of modifying service regions, creating core overlap areas, and centralizing certain functions.

METHODOLOGY

The methodology utilized to conduct the study included:

- A literature review of pertinent studies, going back to a three-year performance review of Access Service conducted by Nelson\Nygaard in 2005 to 2007.
- A review and analysis of a vast amount of requested reports and data, including a month's worth of raw trip data, from October 2016.
- In-person day-long visits were made to each of the six contractors; during these visits, the consulting team interviewed management and staff from each major function, observed the staff performing their duties, and collected additional data/reports.
- A two-day visit to Access' headquarters in El Monte during which the consulting team interviewed management and staff from each major monitoring/oversight function.
- Peer information was borrowed from a concurrent national research synthesis project (TCRP J-07 Topic SG-14 on ADA Paratransit Service Models) being undertaken by Nelson\Nygaard.
- Seeking input from the Access Board of Directors and Access' two advisory committees, the Community Advisory Committee (CAC) composed largely of Access Paratransit customers and advocates and the Transportation Professionals Advisory Committee (TPAC) composed of representatives from some member transit agencies and other industry experts. The study team will attend four meetings with each group over the course of the study in February, June, July, and August, 2017.
- Progress calls with the Access Services management team were held every two weeks.

MID-STUDY REPORT ORGANIZATION

The rest of this Mid-Study Report is organized as follows:

- **Chapter 2: Overview of Access and Access Paratransit:** This chapter provides an overview of Access and Access Paratransit and focuses on how both are organized; the overview includes a summary overview of each of the regions and the contractor assigned to each region.
- **Chapter 3: Policies, Procedures, and Practices Review:** This chapter provides a summary of operational functions and the system policies that apply to these functions, including differences among the contractors.
- **Chapter 4: Access Management and Oversight:** Chapter 4 reviews the types of management, oversight, and other supporting functions performed by Access staff.
- **Chapter 5: Service and Cost Performance:** Chapter 5 identifies, for FY 2016, key service and cost performance metrics tracked by Access, and for some of the KPIs, provides a trend analysis covering the period between FY 2013 and FY 2016
- **Chapter 6: Peer Review:** Chapter 6 presents KPIs and other qualifying information for a dozen peers so that Access can better assess how it's doing in comparison to its peers. Information for the peers will also be used by the consulting team as input to the development of alternative service models (for Access) in Chapter 13.
- **Chapter 7: Overarching Issues:** In the course of our review, we have identified several overarching factors and issues that transcend several of the six key assessments areas. Chapter 7 identifies and discusses these factors and issues.
- **Chapters 8 through 14:** These chapters are dedicated to the assessment of each of the key assessment areas, as well as the financial analysis. Preliminary recommendations for each assessment area are also provided in Chapter 14.

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- Policies, Procedures, and Practices Assessment
- Fleet and Service Mix Assessment
- Management and Oversight Assessment
- Technology Assessment
- Financial Analysis
- Alternative Service Model Structures Assessment

2 OVERVIEW OF ACCESS AND ACCESS PARATRANSIT

WHAT IS ACCESS AND ACCESS PARATRANSIT?

Created in 1994 as a private, non-profit entity, Access Services (“Access”) is now a local public agency organized as a public benefit corporation. Pursuant to the Los Angeles County Coordinated Paratransit Plan and on behalf of 45 fixed-route transit operators in Los Angeles County, Access is responsible for providing **Access Paratransit**, their ADA complementary paratransit service. In addition to operating Access Paratransit, Access acts as the Los Angeles County Consolidated Transportation Service Agency (CTSA). As mentioned in Chapter 1, the focus of this study is to assess how Access Paratransit is organized and delivered, and to assess Access’ management/oversight role and supporting functions, relative to Access Paratransit.

HOW IS ACCESS ORGANIZED?

Access is governed by a nine-member board appointed by the Los Angeles County municipal fixed-route transit operators, the City of Los Angeles Mayor’s Office, the County of Los Angeles, the Transportation Corridor Representatives of the Los Angeles branch of the League of Cities, the Los Angeles County Commission on Disabilities, and the Coalition of Independent Living Centers. Access also has two standing advisory committees: the Community Advisory Committee (CAC) composed largely of Access Paratransit customers and advocates, and the Transportation Professionals Advisory Committee (TPAC) composed of representatives from some member transit agencies and other industry experts. The Board and the advisory committees each meet monthly on different days.

Headquartered in El Monte and headed by an (Interim) Executive Director, Access has 71 employees organized into five departments: Operations and Safety; Finance, Planning and Governmental Affairs, Human Resources, and Administration. Most of the focus of this study falls under the Operations and Safety department, which oversees and monitors the six contractors providing Access Paratransit; provides vehicles to the contractors and ensures that proper maintenance is being performed, and monitors safety. Also reviewed are the oversight functions in the Finance department, which is responsible for budget control, business analytics, financial planning, risk management, information technology, and procurement and contract administration.

HOW IS ACCESS PARATRANSIT ORGANIZED?

Access Paratransit is provided through contracts with six private contractors, who are assigned to specific regions. The six regions, which collectively cover 1,325 square miles, are shown in Figure 2-1. These consist of four regions (Eastern, West Central, Northern and Southern) that cover the LA Basin, plus two North County regions: Santa Clarita and the Antelope Valley. Figure 2-1 presents the contractors assigned to each region, as well as their contract end date and remaining option years.

Figure 2-1 | Service Regions and Contractors

Region	Contractor	Contract End Date	Remaining One-Year Options
Eastern	San Gabriel Transit	3/31/19	5
West Central	California Transit	10/31/17*	0
Southern	Global Paratransit	8/31/19	2
Northern	MV Transportation	7/31/18	5
Antelope Valley	Keolis	4/30/20	2
Santa Clarita	City of Santa Clarita/MV Transportation	8/3/17	1

*California Transit was recently awarded a new contract to continue serving the West Central region, which begins on 10/29/17 and ends 10/28/22. The contract includes four one year options, pending board approval.

Each of the six contractors is responsible for the following primary functions:

- The intake and processing of reservations for trips emanating from their assigned region
- Scheduling and dispatching for those trips
- Responding to customers' same-day issues (e.g., ETA/trip status calls)
- Service delivery, ensuring that all contractual obligations and service standards are met

Other supporting responsibilities for which the contractors are responsible include:

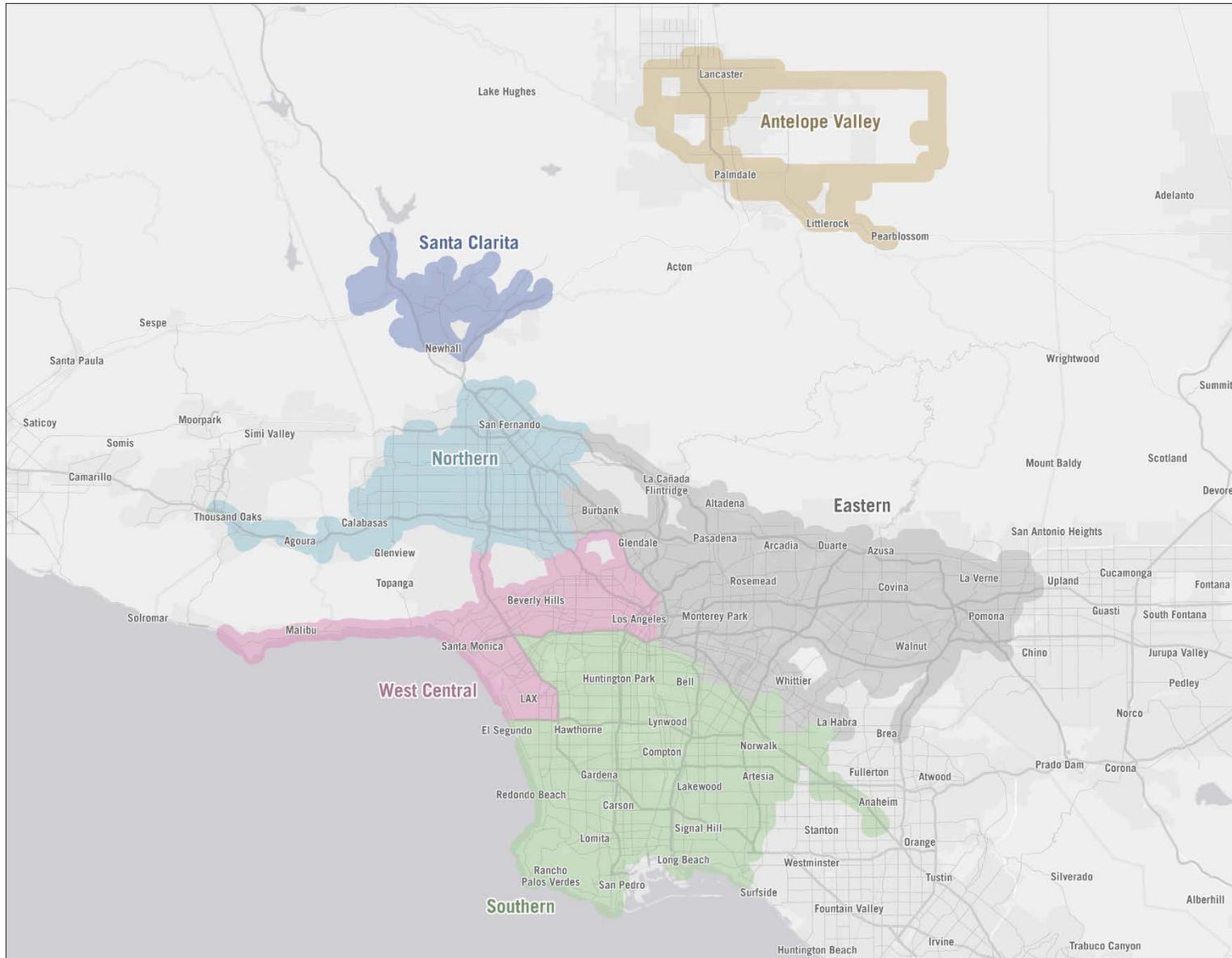
- Supplying the paratransit software and all telephone and radio communication systems and related hardware both in their operational facilities and in the vehicles
- Supplying additional vehicles (i.e., not supplied by Access) used for dedicated services and, if this is part of their business model, arranging for and monitoring the use of taxi subcontractors, as needed to ensure that all contractual obligations and service standards are met
- Provision of the operations/maintenance facility
- Fleet maintenance of all vehicles owned by Access and the contractor used for Access Paratransit
- All required reporting and invoicing

Access also contracts with San Gabriel Transit (SGT) to operate dedicated vehicles to provide the certification trips throughout the basin regions, noting that SGT is paid by the revenue vehicle hour (RVH) for certification trips.

A summary overview of each of the six regions and contractors is presented later in this chapter, following the service region order from Figure 2-1 above. (This order will generally be followed for the rest of this report).

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Figure 2-2 | Access Service Regions Map



KEY SERVICE POLICIES

Key Access Paratransit service policies include the following:

- Access Paratransit provides service within three-quarter mile of fixed-route bus and rail lines in Los Angeles County. This covers almost all of urban Los Angeles County and certain points outside of the county.
- Access Paratransit service operates full service in the basin areas from 4:00 a.m. to 12:00 a.m. seven days a week. In some areas where buses run late, Access Paratransit service may be available 24 hours a day.
- Access Paratransit provides next-day reservations only. Reservation hours in five of the six regions span from 6 a.m. to 10 p.m. seven days a week, with the exception of Antelope Valley, where reservation hours span from 8 a.m. to 5 p.m., and in Santa Clarita, which operates reduced hours on Sundays from 6 a.m. to 8 p.m. The current reservations period exceeds what is minimally required by the ADA and FTA policy.
- After a customer calls to book an inter-region round trip, the customer is transferred to the other region's contractor for intake of the return trip request; this is somewhat inconvenient for the customer because s/he must endure two hold times and must give the same information to the second booking agent all over again, except in reverse. This does not happen with all such calls, however, for the following reasons. With a common ownership, San Gabriel Transit (SGT) and California Transit (CTI) share a common reservations (and scheduling) staff, both located at SGT's facility in El Monte. With any booking agent able to book a trip emanating from either the Eastern or the West Central region, calls for round trips between these two regions can be handled without having to transfer the call. A similar arrangement is also being made with the Northern (MV) and Southern region (GPI) contractors.
- Fares are based on trip length in the LA Basin regions. Trips up to 19.9 miles long cost \$2.75. Trips 20 miles long or greater cost \$3.50. Fares must be paid with exact change, coupons, or a credit/debit card. Local fares in Santa Clarita and Antelope Valley are \$2.00, with transfer fares being higher.
- Trips are scheduled by pick-up time only. Customers are advised to leave enough time for travel to their destination, taking into account that the provider may offer a pick-up time as much as an hour after the requested pick up time. The Rider's Guide suggests that customers plan trips with the following guidelines:
 - 1-10 miles: 30-90 minutes
 - 11-20 miles: 1-2.5 hours
 - 21-30 miles: 1.5-3 hours
 - 30+ miles: 2-3.5+ hours
- Pick-ups are considered on-time if the vehicle arrives within a 20-minute window beginning at the scheduled pick up time.
- Vehicles will wait five minutes for a rider. Vehicles that arrive early must wait five minutes beginning at the scheduled pick-up time.
- Service is provided curb-to-curb unless a customer has requested a "reasonable accommodation", known as a Beyond the Curb (BTC) request. Drivers are to wait for customers in front of or as close as possible to the scheduled pick-up location. Access Paratransit will refuse BTC requests at specific locations that cannot safely accommodate its vehicles.

- Riders are advised to schedule return trips for the latest time they think they will be able to travel. Riders who are ready earlier than the scheduled pick-up time may call to see if an earlier ride is available but should be prepared to keep the original pick-up time.
- Riders may request call-outs, an automated phone call generated by the driver which lets the rider know approximately when the vehicle will arrive or that it has arrived.
- Standing orders may be requested for recurring trips.
- While trips between the four regions in the LA Basin do not require vehicle-to-vehicle transfers, trips between the LA Basin and two North County areas (Santa Clarita and the Antelope Valley) do. The primary transfer point is located at the Olive View Medical Center in Sylmar.
- Other variations on these policies for Santa Clarita and Antelope Valley are elaborated later in the report.

HOW ARE CONTRACTORS PAID?

The payment structure for each of the contractors is a split structure with a monthly fixed cost fee that covers the contractors fixed costs, and a per (completed) trip rate that covers the contractor's variable costs. The split structure is common in the paratransit industry, especially where per trip rates are in place, as a way to protect against risk. Access is protected if the number of trips increase beyond the range expected in that Access would not overpay for fixed costs, while the contractors are protected if the number of trips fall short of the expected range in that they will still recoup their fixed costs, as compared to a per trip rate that covers all costs. In addition, the use of a per trip rate (versus a per revenue service hour rate) in the industry is common among regionally decentralized systems where there is also a heavy use of taxi subcontractors.

REGION AND CONTRACTOR PROFILES

Eastern Region: San Gabriel Transit

Access Services' Eastern region encompasses the majority of eastern Los Angeles County. The Eastern region is the largest Access service region by area at approximately 394 square miles. The region begins just east of downtown Los Angeles and extends to roughly the San Bernardino County border to the east, the Orange County border to the south, and the San Gabriel Mountains to the north. Major cities in the Eastern region include Glendale, Pomona, and Pasadena. Public transit operators in the region include Metro and Foothill Transit, as well as several smaller municipal operators.

San Gabriel Transit and California Transit, the service provider for the West Central region, share common ownership and have merged several aspects of their Access operations. The two contractors operate a unified call center at San Gabriel Transit in El Monte, where reservations, scheduling, and customers' same-day issue functions are handled by a common staff using the 5M software. The joint scheduling function enables SGT to use CTI vehicles and vice versa when such scheduling improves the efficiency of the combined regions. SGT refers to this as "trip exchange." And while the dispatching functions are separate, the respective sets of dispatchers utilize this strategy.

SGT's fleet consists of 196 Access-owned vehicles and 12 vehicles owned by SGT. In FY 2016, San Gabriel Transit served over 915,000 trips, second most of any Access contractor. Taxi subcontractors served approximately 53% of these trips, excluding certification trips.

West Central Region: California Transit

Access Services' West Central region includes downtown Los Angeles, several central Los Angeles neighborhoods, and neighborhoods and municipalities on the Westside. The West Central region is the second smallest service region by area at approximately 119 square miles. The region runs west from downtown Los Angeles to the Pacific Ocean, bordered by the San Fernando Valley to the north and the 10 freeway to the south. The region also extends west along the Pacific Coast Highway to Malibu and south to LAX. Los Angeles neighborhoods in the West Central region include Hollywood, Koreatown, Mid-City, and Westwood, as well as the adjacent municipalities of Santa Monica, Beverly Hills, and West Hollywood. Metro, LADOT, and Santa Monica's Big Blue Bus are the primary public transit operators in the region. Numerous municipal and regional transit agencies also provide local and commuter express service to major business districts in the region, such as downtown Los Angeles, Century City, and Westwood.

CTI's operations and dispatch facility are located in downtown Los Angeles. Their fleet consists of 113 Access-owned vehicles and five vehicles owned by CTI. In FY 2016, CTI served over 502,000 trips, ranking fourth among the Access Paratransit contractors. Taxi subcontractors served approximately 44% of these trips.

Southern Region: Global Paratransit

Access Services' Southern region encompasses the majority of southern Los Angeles County. The Southern region is the second largest service region at approximately 378 square miles. The region includes most Los Angeles County municipalities south of the 10 freeway and southwest of the 5 freeway, with the exception of beachside communities west of the 105 freeway, and north of the 105 freeway. The Southern region also extends into Orange County along the 5 freeway, following the route of Metro Route 460 to Disneyland in Anaheim. Major cities in the Southern region include Long Beach, Torrance, Downey, Inglewood, and Norwalk. Metro, Long Beach Transit, Torrance Transit, and Norwalk Transit are the primary public transit operators in the region.

Global Paratransit operates all paratransit functions except for reservations out of its Gardena facility. Global recently retained MV in the Northern region to intake its reservations calls and same-day issue calls, although the ETA/trip status calls from Global customers are transferred down to Global immediately upon being answered by MV reservation agents. This unified call center began in February 2017. So, similar to SGT and CTI, there is no need to transfer reservation calls for inter-region trips between the Northern and Southern region. Global, which had undertaken a procurement process for a new software system and had selected Trapeze PASS to replace its ADEPT software system, decided instead to take advantage of MV's corporate relationship with Trapeze, and ultimately agreed to contract out its reservations functions to MV.⁵ Meanwhile, MV entered into a contract with Global to operate weekday evening and weekend service in the Northern region as a cost-cutting strategy for MV.

Global's fleet consists of 247 Access-owned vehicles and 12 vehicles owned by Global. Its primary taxi subcontractor is All Yellow (and its many sub-brands), which has co-located some of its dispatchers at Global's operations facility. In FY 2016, Global served over 1.1 million trips, the most of any Access Paratransit contractor. Taxi subcontractors served approximately 41% of these trips.

⁵ During our site visit to the Southern region, Global had ceased using ADEPT and was using the DDS system for all its call center functions as a Band-Aid until MV began taking reservations on behalf of Global in February 2017. At this point, Global switched to Trapeze.

Northern Region: MV Transportation

Access Services' Northern region encompasses the majority of the San Fernando Valley, with the notable exception of Burbank which is in the neighboring Eastern region. The Northern region is the third largest Access service region by area at approximately 183 miles. The region includes all city of Los Angeles neighborhoods in the San Fernando Valley, as well as the city of San Fernando and communities along the 101 freeway extending to Thousand Oaks. Metro is the primary public transit operator in the region, along with commuter express services provided by municipal operators such as LADOT.

The Access Northern region of Los Angeles County, specifically the San Fernando Valley area, is about a 260 square mile area stretching to Calabasas, Agoura Hills, and Westlake Village on the west, north to Chatsworth, Porter Ranch, and Granada Hills, along the I-5 corridor as far north as the Highway 14 split, then east to Sunland and Burbank, and south as far as Studio City, Sherman Oaks, and Encino.

MV's Van Nuys facility is a comprehensive maintenance facility dedicated to Access vehicles only. All functions for the Northern region are based here, as is the reservations function for the Southern region, under the contract with Global which began in February 2017. And while ETA/trips status calls from Southern region customers come into the same unified call center as the reservations calls, the ETA/trips status calls, once received, are immediately transferred back to Global's dispatchers. In addition, as mentioned above, MV's contracts with Global to serve many Northern region trips on weekday evening and on weekends. Trapeze software is being used for all functions, but it should be noted that 5M is being used to cluster trips into mini-runs for one of its taxi subcontractors before the trips are assigned to that taxi subcontractor.

MV's fleet consists of 135 Access-owned vehicles and 37 vehicles owned by MV. In FY 2016, MV served over 776,000 trips, third most of any Access Paratransit contractor. Trips provided by taxi subcontractors have increased from 18% in April 2016 to 44% in April 2017.

Antelope Valley: Keolis

Access Services' Antelope Valley Region lies between the Tehachapi and San Gabriel Mountains, about 40 miles north of downtown Los Angeles. Antelope Valley is the third smallest Access service region by area at approximately 165 square miles. The region is centered on the cities of Lancaster and Palmdale, but extends eastward over 20 miles to Lake Los Angeles and Pearblossom. The latter communities were more recently added to the Access service area due to the initiation of new public transit routes. Antelope Valley Transit Authority (AVTA) is the primary public transit operator in the region.

Keolis (formerly Diversified Transit) operates most Access Paratransit functions from a facility in Lancaster. Reservations are taken at a call center near LAX that additionally serves Keolis contracts outside of the Los Angeles region. The Keolis fleet for Antelope Valley services 38 Access-owned vehicles and nine contractor-owned vehicles. Unlike the LA Basin regions, most Antelope Valley trips are served using cutaways rather than vans, and Keolis does not use taxis for non-dedicated service.

Santa Clarita: City of Santa Clarita/MV Transportation

Access Paratransit service in the City of Santa Clarita is provided through a contract with the City, which in turn contracts with MV Transportation for vehicle operations. Santa Clarita is the smallest Access region by area at approximately 86 miles. Santa Clarita Transit is the primary public transit operator in the region.

The City of Santa Clarita and MV Transportation operate all paratransit functions out of the city yard. Unlike in other Access regions, Santa Clarita Access Paratransit service is co-mingled with the city's dial-a-ride service for seniors and people with disabilities. A total of 12 vehicles (all cutaways) are dedicated for

the combined services, eight of which are owned by Access along with four provided by the city. Dial-a-ride trips are served only by city-owned vehicles, and are prohibited from Access vehicles. Note that there is limited opportunity for these two sister MV operations (in the Northern region and in Santa Clarita) to coordinate trips except in relation to small numbers of vehicle-to-vehicle transfers at Olive View Medical Center in Sylmar, also noting that only 1% of the systemwide number of trips is served in Santa Clarita.

SUMMARY OF RIDERSHIP AND FLEET SIZES BY REGION

While comprehensive ridership information is provided in Chapter 5, Figure 2-3 shows that Access Paratransit delivered over 4.25 million ADA paratransit passenger trips including personal care attendants (PCAs) and companions in FY 2016. Figure 2-3 also shows the FY 2016 ridership by region. Around 11,000 total passenger trips were served on an average weekday in FY 2016. Approximately 94% of these passenger trips emanate from the four regions in the LA Basin.

Not included in Figure 2-3 are the 77,839 certification trips served by SGT systemwide.

Figure 2-3 also shows fleet sizes broken down by the vehicles used for dedicated service by ownership and the collective taxi subcontractor fleets of certified taxicabs. As shown, the service fleet all together consists of 816 dedicated vehicles plus 1,318 taxicabs.

Figure 2-3 | Access Paratransit Ridership and Fleet Size by Service Region (FY 2016)

Region	Total Passengers	Percent of Total	Access- Owned Vehicles	Contractor- Owned Vehicles	Certified Taxis	Total Fleet
Eastern	1,132,172	27%	196	12	402	610
West Central	663,340	16%	113	5	81	199
Southern	1,437,977	34%	247	12	835	1,094
Northern	775,998	18%	135	37	0	172
Antelope Valley	199,554	5%	38	9	0	47
Santa Clarita	41,489	1%	8	4	0	12
Access Total	4,255,970	100%	737	79	1,318	2,134

Note: Access Total includes OMC Back Up trips.

USE OF TAXI SUBCONTRACTORS

As mentioned in Chapter 1 and above, the four contractors of the LA Basin also use taxicab subcontractors for as much as 50% of the trips that each of these four contractors serve, reflecting an overall percentage of 39% of the systemwide trips. These contractors utilize multiple taxi subcontractors and use taxis operating in a fully dedicated fashion, semi-dedicated fashion (3- to 4-hour mini-runs serving clusters of compatible trips), and non-dedicated fashion.

The use of taxicabs traces back to the origins of Access Paratransit, and has often been considered a national best practice. In order to participate in Access Paratransit, taxi drivers must comply with the same requirements as employee drivers of the six contractors to become ADA paratransit certified. This includes participating in the drug and alcohol testing pool and training to proficiency. The taxicabs they operate must also meet Access' general vehicle insurance requirements. The taxi companies who own the vehicles accomplished this by carving out a subset of their fleet, insuring those taxicabs at the higher level, and assigning those taxicabs to certified taxi drivers. Hence, The 1,318 taxicabs referenced above are all ADA paratransit certified taxicabs.

3 POLICIES, PROCEDURES, AND PRACTICES REVIEW

The study team conducted site visits and interviews with each of the six service providers currently under contract to operate Access Paratransit. The site visits primarily occurred between February 14 and February 17, 2017, with follow-up interviews and visits continuing through mid-May 2017. The study team observed most paratransit functions at each of the six contractors, interviewed front-line employees and supervisors, and held closed-door focus groups with drivers. Insights from these site visits are included throughout the report. The policies, procedures, and practices overview below focuses on the following topics and functions:

- Facilities
- Fleet and Maintenance
- In-Vehicle Equipment
- Reservations, Cancellations, and ETA Requests
- Scheduling
- Dispatching
- Beyond-the-Curb Requests
- Vehicle-to-Vehicle Transfers

Each topic/function includes an overview for all six regions, with a specific focus on identifying key themes across contractors. Chapter 8 includes initial assessments and recommendations for policy, procedures, and practice improvements based on the observations highlighted below.

FACILITIES

All six Access contractors operate from their own primary operations facility (Figure 3-1 and Figure 3-2). Each of these facilities includes administrative offices, a vehicle yard, and maintenance operations. Most Access contractors operate out of facilities that are centrally located within their region and have nearby access to a major freeway. CTI, MV, and Keolis have long-term leases for their facilities, while SGT, Global, and Santa Clarita own their facilities.

- SGT, which serves the Eastern region, and CTI, which serves the West Central region, have consolidated their reservations and scheduling functions at SGT's operational facility in El Monte, just west of the Eastern region's geographic center. The facility is directly adjacent to the 10 freeway, including an entrance to the Metro ExpressLanes that provide less congested access to downtown Los Angeles.
- CTI is the only contractor that operates from a facility located outside of their service region. Their operating facility, which also houses the dispatching function, is located in the Southern Region just south of downtown Los Angeles, at the far eastern edge of the West Central service area.

Figure 3-1 | Contractor Facilities Map

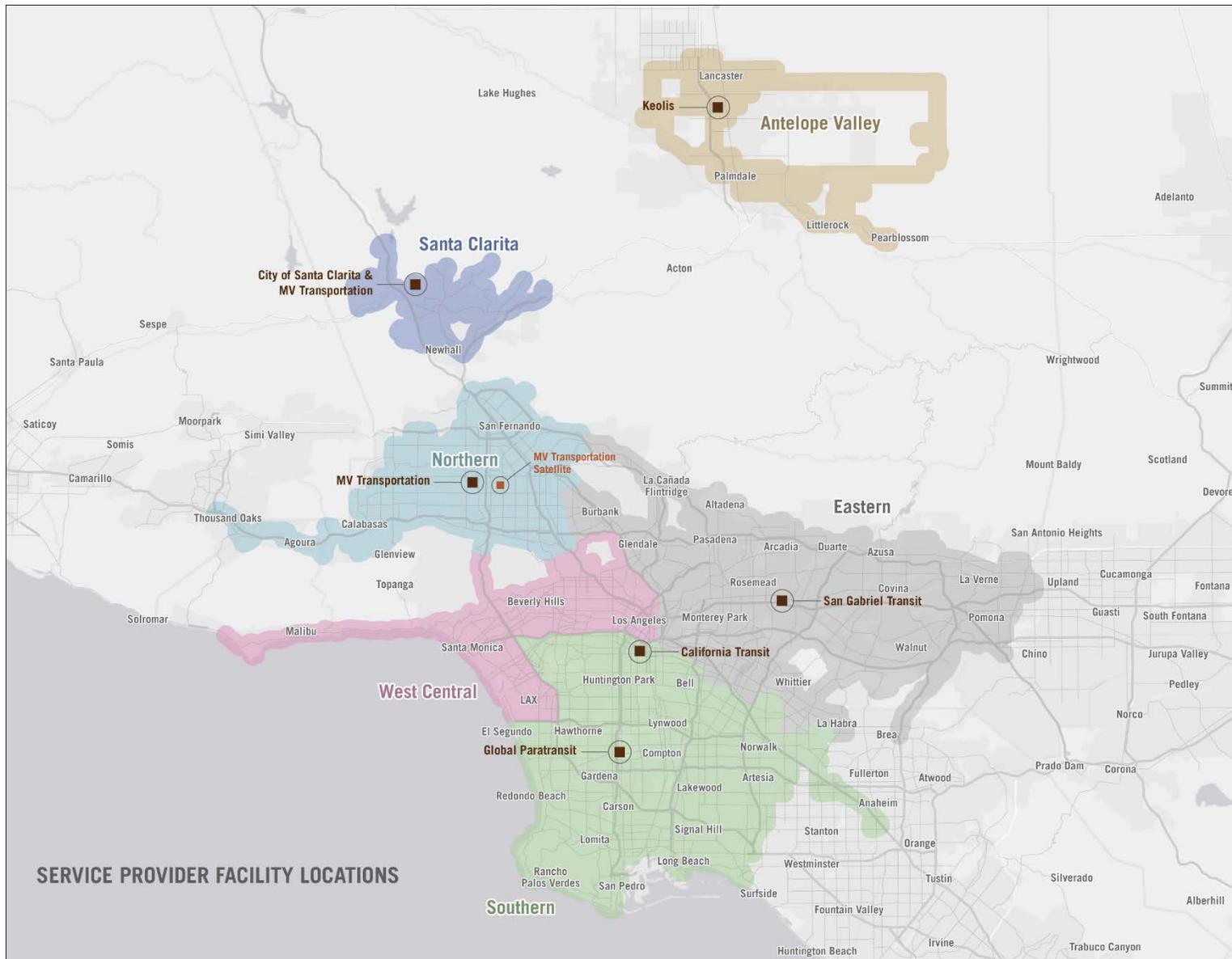


Figure 3-2 | Contractor Facilities by Region

Region	Contractor	Primary Operations Facility	Call Center
Eastern	San Gabriel Transit	3650 Rockwell Ave, El Monte, CA	3650 Rockwell Ave, El Monte, CA 91731
West Central	California Transit	3201 Hooper Ave, Los Angeles, CA	
Southern	Global Paratransit	400 W. Compton Blvd, Gardena, CA	16738 Stagg Street, Van Nuys, CA
Northern	MV Transportation	16738 Stagg St, Van Nuys, CA*	
Antelope Valley	Keolis	660 West Avenue L, Lancaster, CA	6053 W. Century Blvd #900, Los Angeles, CA
Santa Clarita	City of Santa Clarita/ MV Transportation	28250 Constellation Rd, Santa Clarita, CA	

* MV Transportation also utilizes a satellite vehicle park-out and storage yard located at 14660 Raymer St, Van Nuys, CA

Note: The Southern region call center was located at 400 W. Compton Blvd, Gardena, CA at the time of the site visits conducted for this study. Since the study site visit in January 2017, Global Paratransit (Southern region) has consolidated their reservations call center with MV Transportation's call center for the Northern region in Van Nuys.

- Global Paratransit's operations facility in the Southern region is located in Gardena, near the region's geographic center. The Gardena facility is adjacent to the 110 freeway, which also has Metro ExpressLane access to downtown Los Angeles. All Access Paratransit functions, except for reservations, are housed in this facility. Similar to SGT and CTI, Global and MV Transportation, serving the Southern and Northern regions, respectively, recently consolidated their reservations functions at the MV facility in Van Nuys.
- In the Northern region, MV Transportation operates out of two facilities in Van Nuys, both of which are located just south of the Northern region's geographic center. MV's primary operations facility houses its administrative offices, call center, maintenance operations, and much of the Access dedicated fleet. And, as noted above, the call center encompasses the reservations function for both the Northern and Southern regions. The secondary facility functions as a vehicle park-out and storage yard for additional Access and MV vehicles.
- Keolis, the paratransit contractor for the Antelope Valley operates out of a facility in Lancaster, which is centrally located within the most densely populated area in the Antelope Valley, ideal for the vast majority of Access trips in the region. Keolis' dispatchers, who also handle ETA/trip status calls, are also located at the Lancaster facility. Keolis' reservations and scheduling staff, however, is based in its multi-program call center near LAX; this call center is also used for several Keolis-operated services outside of Los Angeles.
- Santa Clarita's transit operations facility is located near the interchange of the 5 freeway and State Route 126, northwest of the most densely populated neighborhoods in their service area. Santa Clarita's call center functions and paratransit operations, both performed by MV under contract to the city of Santa Clarita, are consolidated with the city's other public transportation operations, all based out of this facility.

Staff at both Keolis in the Antelope Valley and CTI in the West Central region noted that the location of their primary facilities present operational challenges.

- Keolis staff reported that the limited Access Paratransit trips to, from, and within remote communities such as Lake Los Angeles and Pearblossom negatively impact Antelope Valley operations. These trips are significantly longer than other Antelope Valley trips, and sometimes require over 40 miles of deadhead.

- As mentioned above, CTI is the only contractor that operates from a facility located outside of their service region. CTI serves a high volume of trips on the Westside, especially to and from the medical centers near UCLA. Drivers whose runs begin on the Westside typically must deadhead along the 10 freeway after they pull out of the CTI vehicle yard. The highly variable congestion on the 10 freeway therefore significantly affects CTI operations, with runs originating on the Westside frequently starting behind schedule..

FLEET AND MAINTENANCE

Access provides a dedicated fleet for each contractor allocated using a formula based on trip volume. Contractors can – and do -- augment their Access-owned vehicles with their own dedicated vehicles. The LA Basin contractors also use taxi subcontractors operating certified taxis with certified taxi drivers in semi- and non-dedicated modes. As of FY 2016, a total of 2,134 vehicles are currently available for Access paratransit operations (Figure 3-3). Access owns approximately 35% of these vehicles. An additional 4% are dedicated vehicles owned by the contractors, and 61% are Access-certified taxicabs.

One of the fleet-related issues explored further in Chapter 9, is that while the distribution of Access-owned vehicles is certainly equitable, it does not support the varied ways that the contractors use these vehicles. For example, SGT in the Eastern region, which has a high use of taxi subcontractors, under-utilizes its fleet of Access-owned vehicles, while MV in the Northern region has historically made very efficient use of the Access-vehicles, noting that MV just started to extensively use Global and SGT for their taxi subcontractor resources this year.

Access pioneered the use of accessible minivans for paratransit service, which now comprise 73% of the Access-owned fleet. The vast majority of Access minivans are Dodge Amerivans (a converted Dodge Caravan), which hold up to two passengers using mobility devices or up to four ambulatory passengers. Apart from the minivans, Access has also provided contractors with smaller fleets of MV-1s and cutaway vans, as well as a select number of sedans. The MV-1s can hold one passenger using a mobility device and up to three ambulatory passengers, while the cutaways come in a number of configurations with varying capacity (Figure 3-4). The dedicated fleet mix varies somewhat by contractor. For example, Access has allocated 138 minivans and 51 MV-1s to SGT for service in the Eastern region. On the other hand, CTI in the West Central region has 97 minivans and just 3 MV-1s. Three of the four LA Basin contractors were certifying taxis for use in non-dedicated Access service as of FY 2016. Nearly 88% of Access-certified taxis are sedans, with minivans comprising the vast majority of the remaining non-dedicated fleet.

All Access contractors perform routine maintenance and repairs at on-site maintenance facilities. Each of these facilities has dedicated maintenance bays for Access vehicles and an on-site spare parts inventory. None of the contractors reported a lack of maintenance space, and multiple providers were using excess room in their maintenance facilities to store in-service Access vehicles or employee's personal vehicles. All contractors perform the vast majority of maintenance on-site, though all subcontract some specialty maintenance work. For example, San Gabriel Transit and California Transit subcontract work on alignments, smog emission, bodywork, and upholstery. Most contractors send Access vehicles to dealers for warranty repairs. Several contractors noted that warranty maintenance often takes a vehicle out of service for several weeks. Global recently decided to stop using dealers for warranty maintenance and bring everything in-house.

Figure 3-3 | Fleet Roster by Region, Owner, and Vehicle Type (FY 2016)

Region	Owner	Vehicle Type						Total Vehicles
		Cutaway	Minivan	MV-1	Sedan	SUV	Other	
Eastern	Access	4	138	51	3			196
	Contractor-Dedicated		12					12
	Taxi		37	2	360		3	402
West Central	Access	10	97	3	3			113
	Contractor-Dedicated				5			5
	Taxi		17		64			81
Southern	Access	16	191	40				247
	Contractor-Dedicated	2		4	6			12
	Taxi		105		727	3		835
Northern	Access	23	102	6			4	135
	Contractor-Dedicated	17	6	5	9			37
	Taxi							0
Antelope Valley	Access	29	5	1			3	38
	Contractor-Dedicated	9						9
	Taxi							0
Santa Clarita	Access	8						8
	Contractor-Dedicated	4						4
	Taxi							0
Access Total	Access	90	533	101	6	0	7	737
	Contractor-Dedicated	32	18	9	20	0	0	79
	Taxi	0	159	2	1151	3	3	1,318

Figure 3-4 | Primary Access Dedicated Vehicle Capacities

Vehicle Make and Model	Maximum Vehicle Capacity	
	Ambulatory	Mobility Device
2012-16 Dodge Amerivan	4	2
Mobility Ventures CNG MV-1	3	1
2016 StarCraft Starlite (Class A Cutaway)	7	2
2016 StarCraft Allstar (Class B Cutaway)	8	5
2016 StarCraft Allstar (Class C Cutaway)	12	6

All contractors track preventative maintenance and their parts inventory using fleet management software. San Gabriel Transit, California Transit and Global use Mainstar, MV uses Trapeze Fleet Focus software for their operations in both the Northern region and Santa Clarita, Keolis uses Collective Data.

The study team asked mechanics at each of the contractors about the reliability of Access-owned vehicles. The mechanics noted that the Dodge Amerivans are reliable overall, but do have a few ongoing

maintenance issues. The most significant maintenance issue involved the hinges in the wheelchair ramps, which appear to break more frequently than on other Access vehicles. Drivers at several contractors said that ramps on the Amerivans had broken during service. Mechanics at California Transit noted that they check the hinges during preventative maintenance. Mechanics also highlighted issues with Amerivan transmissions and oil coolers, as well as the shorter life cycle of the vehicle's catalytic converters. Drivers noted that the windshield wipers on the vans are not very effective in the rain.

Contractors said that acquiring parts for the MV-1s is more difficult and occasionally more expensive than for other vehicles. Several mechanics noted that the electric ramps for the MV-1s are unreliable, while drivers commented that it is sometimes difficult to position the vehicle to use the ramps to pick up and drop off passengers. Mechanics at MV also noted issues with the passenger rear door and the air conditioning system.

IN-VEHICLE EQUIPMENT

The two primary technologies installed in all Access vehicles are Mobile Data Terminals (MDTs) and the SmartDrive safety monitoring system. Contractors install MDT hardware that is compatible with their respective dispatching and driver communication software. None of the contractors reported significant issues with their MDT hardware or software that affect typical Access Paratransit options. Drivers for several contractors noted that they occasionally experience MDT or two-radio communication dead zones in mountainous areas, but that these issues rarely affect operations. Drivers at SGT said that the GPS function on their MDTs was unreliable, and nearly all of the drivers in the focus group had purchased personal dashboard GPS devices. When dispatchers add or remove a trip from a run, these drivers have to pull over to manually input information into their GPS. To address the issue, SGT is currently in the process of replacing their MDTs with tablets. SmartDrive is a video monitoring system installed in all Access-owned vehicles. The system continuously records exterior and interior video, and flags certain driver safety events, such as instances of speeding, hard breaking, and hard acceleration. Access contractors use the system to identify which drivers need to be retrained, or in some instances terminated. Contractors can also use the SmartDrive system to do spot checks for drivers using cell phones, which is prohibited by Access policy. While contractors were generally satisfied with the SmartDrive system, several noted that Access has not enabled the audio recording feature. The contractors felt that enabling this feature would simplify responding to customer complaints or accusations against drivers.

RESERVATIONS, CANCELLATIONS, AND ETA REQUESTS

Access service contractors are responsible for operating a call center to handle reservations, trip cancellations, and ETA requests. As stated above, some of the contractors have gradually consolidated their call center functions over the past few years. SGT performs reservations and scheduling for both the Eastern and West Central regions at its facility in El Monte, while MV and Global recently consolidated their reservations function for the Northern and Southern regions at MV's facility in Van Nuys, noting that Global was still operating their separate call center at the time of the study team site visits. Keolis utilizes a consolidated call center near LAX to serve Antelope Valley Access customers, while the City of Santa Clarita operates its own call center for Access Paratransit and other city-operated transit services.

Access operates a single 1-800 number that customers can use to access the contractor call centers. Customers that call the 1-800 number are asked whether they speak English or Spanish, prompted to select the region where the trip will begin, and asked if the call is for a reservation, a cancellation, or an ETA request. Customers are then directed to the appropriate bank of reservationists for each contractor. All contractors employ a number of reservationists that are either bilingual or primarily speak Spanish. Reservationists can also initiate three-way calls with a translation service for callers who do not speak English or Spanish. Customers with hearing impairments can use the California Relay Services.

Reservations

Access mandates that all contractors train their employees to utilize a standardized reservation script. This script is designed to ensure that reservationists obtain the following information from each customer:

- Access ID Number
- The exact street addresses of the pick-up and drop-off location, including a stand number where applicable
- The number of people traveling, including PCAs and guests, and whether any of the customers will be using a mobility device or have a service animal
- The requested time for the trip (Access only allows next-day reservations)
- The customer's telephone number and whether they would like a call-out
- Whether the customer would like to make a return trip
- Confirm that the customer understands Access' service policies, including the 20-minute pick-up window and that drivers cannot provide change

Customers must make their reservations with the region where each leg of their trip originates. If a customer books a trip to another region, they have to contact the call center for that region to book a return trip (with some exceptions discussed below). Reservationists can automatically transfer customer calls to another call center, though the customer may have to wait on hold before booking their return trip. For example, if a customer wanted to book a round trip between their home in the Southern region and UCLA Medical Center in the West Central region, they would first contact the Southern region call center and the reservationist would reserve a trip between their home and UCLA Medical Center. The Southern region reservationist would then transfer the customer to the West Central region call center, where the customer could schedule their return trip from UCLA Medical Center to their home address. Global would serve the first leg of the customer's trip and CTI would serve their return trip.

Call center consolidation has eliminated the otherwise required call transfer for some inter-region trips. Reservationists at the SGT call center can book trips in both the Eastern and West Central region. A reservationist at the SGT call center, for example, can book a round trip for a customer traveling between El Monte in the Eastern region and UCLA Medical Center in the West Central region in one call. In most cases, SGT would serve the first leg of the trip and CTI would serve the return trip. It is assumed that reservationists at the MV call center will be similarly able to book round trips between the Northern and Southern region once their call center integration is fully complete.

The study team observed that reservationists at all six contractors generally followed the mandated Access reservation script. Reservationists did not necessarily follow the script verbatim, as some modifications were generally necessary to adapt to the configuration of the 5M, Trapeze, Adept, and DDS input windows.

Eastern and West Central Regions

Reservationists at the SGT call center schedule trips for both the Eastern and West Central regions using 5M software. Access' current contract with SGT and CTI requires that each have a call center manager on duty at all times, so the consolidated facility operates with two shift managers. Shift managers assign reservationists to answer either the reservations line or the ETA/cancellations line, in English, Spanish, or both. Reservationists answer reservations or ETA/cancellations for only one region at a time, though they can schedule round trips for customers traveling between the Eastern and West Central region. Call center managers monitor the hold times on each line for each region, including based on language. Hold times

for the reservations lines for each region in both English and Spanish are displayed on a TV monitor at the front of the call center. Managers regularly move reservationists between lines to reduce hold times.

The 5M software includes several address verification features beyond the standard Access reservation procedure, and SGT/CTI reservationists slightly modify the script to accommodate. Reservationists consistently pulled up an on-screen map to confirm nearby cross streets with the customer. 5M also has fields for what type of location the address is, such as a house, apartment, or restaurant, as well as the preferred Access pick-up location for larger complexes. Reservationists either confirmed the location type or asked customers to provide the type, and regularly confirmed the pick-up point or Access stand number when applicable. If the pick-up address was outside of the Eastern or West Central region, 5M immediately alerted the reservationist, who then forwarded the customer to the appropriate call center.

5M attempts to automatically cluster potential shared trips at the time of the reservation request (this process is described further below). The software provides customers with two potential pick-up times within one hour before or after the requested pick-up time. Reservationists initially quoted the start of the pick-up time, and then stated the full pick-up window once the customer had selected their preferred time. Customers cannot request additional pick-up times beyond the two initially provided by 5M. Reservationists noted that many customers attempt to call back and provide a slightly different pick-up time request in order to get a pick-up time closer to their preferred time. However, as 5M clusters potential shared trips, customers almost always are quoted the same two potential pick-up times regardless of whether they have slightly modified their request.

The study team observed that SGT/CTI call center employees used visibly worn and unreliable equipment. Reservationists consistently had difficulty hearing customers through their headsets, often repeatedly hitting the volume button in an attempt to hear the caller. Reservationists also noted that calls would sometimes get disconnected if they accidentally moved the phone during a call. Computer monitors at the call center were also smaller than observed at other locations, requiring reservationists to toggle and resize 5M screens during calls.

Southern Region

During the time of our site visit, Global reservationists were using DDS to record trip requests. Global has a call center supervisor on duty at all times who is responsible for assigning reservationists to different call lines for reservations, cancellations, and ETA calls in both English and Spanish. Hold times for the reservations and cancellations lines are posted on a video monitor above the supervisor's desk. Reservationists typically are assigned to just one function at a time, though some may be assigned to multiple functions based on staffing and need during a given period.

Reservationists were observed to generally follow the Access reservations script, though some made modifications based on the order of the DDS input screen. DDS does not have as robust input functions as other software packages used by Access contractors. The system makes suggestions as the reservations input the pick-up and drop-off address, but does not store location types or stand locations. Reservationists have to remember major addresses and their corresponding stand locations, which they manually input into the comments section for a trip. Reservationists use a code system to identify location types and customer equipment in the comments. After the pick-up and drop-off locations are successfully inputted into DDS, the system provides a trip distance, which reservationists use to manually calculate the fare. Once a trip request is completed, reservationists manually log basic trip information on a written form as back up.

DDS uses a "slot management" system for scheduling trips on Access Paratransit vans. When a customer requests a trip time, the reservationist confirms that there are still available slots for that time. If the slot is full during the requested window, the reservationist adds the trip to a standby sheet and the trip has to then be manually scheduled by a router or dispatcher.

Northern Region

At the Northern call center, reservationists first collect trip information from the rider, including pick-up and drop-off address, required accommodations, and the total number of passengers. Reservationists also request cross streets, zip codes, and/or location names to reduce any ambiguity. These additional details are put in the comments section of the trip request screen.

Reservationists ask the customer for their preferred pick-up time and then offer the customer two (2) pick-up windows generated by Trapeze. If the customer refuses these pick-up windows, the reservationist will remind the customer that they can only offer a single additional pick-up time and that the first pick-up time will be invalidated. If the first time option is too late, the reservationist will suggest that the customer try an earlier time. Reservationists only put customers on hold when their requested time slot is full and the reservationist needs to work with a lead supervisor to identify a new time slot.

Antelope Valley

Keolis reservationists take Antelope Valley reservations requests at a consolidated call center near LAX using Adept software. The study team observed that reservationists typically followed the standard Access script. Reservationists schedule the majority of trips directly onto runs in the Adept system during customer calls. By policy, customers are typically provided two time slots after making their initial request. If the customer rejects these options, Keolis reservationists sometimes provide several additional options before finding a time that works for the customer. Keolis gives reservationists this flexibility to reduce the number of unscheduled trips. If all requested time slots are full, reservationists place the trip on a waitlist and those trips are scheduled later by dispatchers.

Santa Clarita

In Santa Clarita, MV's reservationists follow the reservation script and ensure they collect the desired trip time, addresses, and need for special equipment or PCAs. Reservationists confirm all of the trip request information with the riders and communicate the required fare for the trip. Riders are reminded of the 20-minute pick-up window during trip confirmation. In the event a reservationist needs to gather more information or speak with a supervisor, the rider is asked if they can be put on hold. To reduce the occurrence of misinformation of trip details in Santa Clarita, the MV reservationists ask for cross streets and names of business and facilities to assist the drivers in the field.

When a trip time needs to be renegotiated, the reservationist will request through Trapeze another time that might work for the rider. If the second time is not acceptable, the trip will be booked but is logged by the reservationist into a three-ring notebook that shows the unscheduled trips by quarter-hour time slot, anticipating then that the scheduler will find an efficient way to route the trip. The three-ring binder was instituted as a tool to limit the number of unscheduled trips and to ensure that these trips were distributed across any given hour and not bunched all together.

Cancellations

Access requires that customers cancel a trip at least two hours before the scheduled pick-up window. Customers who call to cancel a trip within two hours of the pick-up window, or who fail to take a scheduled trip, may be assessed a "no-show." Access generally suspends customers who have five or more no-shows during a calendar month AND whose no-shows exceed more than 10% of the trips during that month.

All Access contractors generally had the same procedures for customer trip cancellations. Customers calling the Access 1-800 number are directed to a reservationist (or dispatcher in the case of Antelope Valley) tasked with handling cancellation calls. Reservationists are trained to first ask customers if they

are cancelling to rebook, and remind customers that Access only allows next-day reservations. At most of the contractors, reservationists can immediately enter a cancellation into their respective software systems without having to contact dispatch. Reservationists may contact dispatch for trips that are within two hours of the pick-up window, as those cancellations may immediately affect driver runs.

At Global, reservationists can only directly cancel Access trips scheduled through DDS. For non-dedicated trips, the reservationist must contact a dispatcher. During our site visit, Global reservationists fielding cancellations for a non-dedicated trip waited until they disconnected from the customer call before contacting dispatch, ensuring that customers did not have to unnecessarily wait on hold. However, the reservationists often immediately got another call from a customer before they could contact dispatch. In these situations, the reservationist put a sticker or mark next to the cancelled trip in their manual log as a reminder to call dispatch later. In one case, this resulted in the reservationist calling dispatch within the two hour cancellation window, even though the customer had called before the window elapsed.

Customers cancelling an inter-region round trip must contact the origin region for both legs of the trip to make their cancellation (except for trips between regions with consolidated call centers). This process results in the customer having to complete the cancellation process twice and possibly hold several times waiting to speak to a reservationist. Additionally, reservationists are not notified about whether the customer has scheduled a round trip between regions. Observed reservationists consistently reminded customers that they needed to cancel trips with the origin region, and transferred calls when necessary.

ETA Requests

Access Paratransit customers can contact each of the service providers to request trip status updates, which Access refers to as ETA requests. Access policy states that customers can only make ETA requests after the designated 20-minute pick-up window has elapsed. After this period, customers can call reservationists from their trip's origin region and will receive an estimated time of arrival for their vehicle. If the vehicle does not arrive by this quoted time, customers can elevate their ETA request by calling the OMC, who then calls the provider. Each Access Paratransit service contractor has a somewhat different workflow for fulfilling ETA requests.

Eastern and West Central Regions

Reservationists at the SGT/CTI call center initially field all ETA requests for the Eastern and West Central regions. Managers typically assign four to five reservationists to dedicated English and Spanish ETA/cancellations lines at a time. These reservationists exclusively answer ETA requests and cancellations, except during slow periods on weekends when some may also sign into the reservations line. The study team observed SGT/CTI reservationists consistently confirm that customers were not calling before the end of the 20-minute pick up window. If customers called before or during the pick-up window, the reservationist would remind the customer of Access policy and provide the time they should call back if their vehicle did not arrive. This is an important point because while SGT/CTI are following the procedure correctly, some of the other contractors are not, and violation of this policy is one of several factors that may be leading to unreasonably high ETA call hold times at those call centers.

Observed reservationists fulfilled valid ETA requests by doing one of the following:

- Pull up the trip manifest screen in 5M, visually inspect the location of the customer's assigned vehicle, and roughly estimate the vehicle's arrival time at the pick-up point
- Pull up the trip manifest screen in 5M, put the customer on hold, and call dispatch to request an ETA

Neither of these workflows is ideal. The first results in the customer getting a potentially inaccurate ETA estimate, which may result in a callback to either the SGT/CTI call center or the OMC. The second is a disruption for the dispatchers, who were observed to be managing a high volume of trips.

Based on these observations, it does not appear that reservationists had been properly trained to use the ETA feature in 5M. This feature provides a specific estimated ETA for all dedicated and non-dedicated vehicles serving trips in the Eastern and West Central regions, and is accessible to reservationists on the trip manifest screen. The software calculates this ETA estimate using regularly updating vehicle location information and real-time traffic data from Google. It is likely that dispatchers were using this function to provide ETA estimates to the reservationists, so it is unclear why reservationists had not been trained to do so as well. A TSS representative who was on-site during our site visit explained how the feature worked to a reservationist we were observing. After learning about the feature, the reservationist was able to complete ETA requests significantly faster and more accurately than he was doing so previously, without calling dispatch.

During the site visit, we frequently observed customers scheduled on non-dedicated trips calling the ETA request line to ask what color taxi would be serving their trip. To fulfill this request, reservationists consistently called dispatch, who were able to immediately identify the color based on the vehicle ID number. One reservationist said that they previously had a book that matched vehicle ID numbers and colors, but that it became out-of-date and had not been replaced.

Southern Region

At the time of our site visit, Global employed six dispatch assistants that were exclusively dedicated to fielding ETA calls for Access dedicated vehicles. Four of these dispatchers answered ETA requests directly from customers, and two handled ETA calls from the OMC, in addition to approving customer no-shows. All ETA dispatch assistants had access to an AVL screen with vehicle locations. When fielding an ETA call, the dispatcher would pull up the vehicle assigned to the customer's trip and estimate an ETA. For escalated ETAs, the dispatch assistants would ask the voice dispatcher to contact drivers directly for an ETA estimate.

At Global, ETA requests coming during the pick-up window were being answered, as described above, contrary to the Access directive. One of the logical reasons why Global's average hold time for ETA calls is so high is because of this practice. Many of the ETA calls that come in during the window might never need to be made with the vehicle arriving a few moments later and within the 20-minute pick-up window. The more calls that come in, the higher the average hold time. If Global's call-takers continue to provide ETA information to callers who call "early", those customers will continue to call during the window.

After our site visits, Global and MV consolidated the reservations function for the Southern and Northern regions as an initial step in their Trapeze integration. Global dispatch assistants in Gardena, however, continue to fulfill all ETA requests for the Southern region. When calling the Access 1-800 number, customers requesting ETAs for Southern region trips first reach an MV ETA clerk in Van Nuys. After the customer identifies that they want an ETA for a Southern region trip, the MV ETA clerk transfers their call to a Global dispatch assistant. The customer therefore must wait on hold twice before reaching a person who can respond to their ETA request, and may have to wait on hold again as the ETA request is fulfilled. Access plans to modify its 1-800 number to immediately transfer callers to Global dispatch for Southern region ETA requests. Once Global moves to Trapeze for dispatching, MV ETA clerks will be able to view estimated time of arrival data for both Southern and Northern region vehicles.

Northern Region

In the Northern region, MV has established a new ETA clerk among the reservationists. Reservationists receiving ETA calls transfer the calls to this clerk if they get into the wrong (reservations) queue. The ETA

clerk checks updated ETA times on the Trapeze screens for trips marked as being on dedicated MV vehicles but not for the trips dispatched to taxis. While the ETA calls for trips on dedicated vehicles are updated based on the vehicle location, the ETA for trips dispatched to taxis are estimates, based on the schedule from the night before. For these calls, the ETA clerk may attempt to talk directly with MV's taxi contractors' dispatchers, who in turn will try to get ETA details from taxi dispatcher, as well as details about the taxi such as vehicle color or number to provide to rider.

As is the case with Global and contrary to Access policy, customers in the Northern region are routinely calling to request ETA information without first waiting for the end of the pick-up window and MV's ETA clerk is providing the requested information.

Antelope Valley

For the Antelope Valley, Keolis dispatch and customer service staff, located at the Lancaster yard, are responsible for ETA calls and cancellations. During peak periods, there are three dispatchers on duty. Dispatch accepts ETA calls throughout service. To respond to these calls, dispatch will locate the vehicle through Adept's GPS function or radio the driver to receive an ETA. If the call occurs in or before the window time has elapsed, the dispatcher will provide an ETA but remind the rider that the driver has a 20-minute window time and is still currently on time for their pick up.

In the event of an emergency, as was observed on the site visit, dispatch advises its customer service agents to stop providing any ETA information as the times prove to be inaccurate. Dispatch staff then advises the agents when they can resume providing ETA information.

Santa Clarita

In Santa Clarita, the MV operation there has reservation agents responding to ETA requests via their Trapeze screens. When a rider waiting for a vehicle-to-vehicle transfer calls for an ETA, the agent will place the rider on hold (with their approval) and call MV dispatch for the ETA, and then relay this information to the rider. Riders are not transferred to dispatch unless reservations offices are closed. However, there are some riders who have saved the dispatch phone number and call it directly to request an ETA. Dispatch will handle those calls.

SCHEDULING

Eastern and West Central Regions

The combined SGT/CTI scheduling staff uses 5M for scheduling. 5M has a unique batch scheduling process that relies primarily on real-time trip matching. As customers request trip times, the software attempts to match trips based on driver schedules, historical demand patterns, and potential shared ride opportunities using a process called "automated slot management". 5M does not assign trips to runs during the reservations process. Instead, a pick-up server identifies two potential times when the trip would most likely be shared with another scheduled trip.

The SGT/CTI scheduling staff really consists of a single scheduler who also doubles as the overnight dispatcher. The scheduler arrives at about 10 p.m. each day, and first manually routes large group trips for several social service agencies that CTI serves with cutaways. The scheduler then runs 5M's batch scheduling process. This process creates three different sets of trips simultaneously:

- Dedicated vehicle runs for contractor employees, taking into account the current staffing resource schedule and a fleet roster with current configuration/capacity of Access vehicles

- Full-day runs for taxi drivers who have notified SGT or CTI earlier that day that they plan to work a full day tomorrow
- Clusters for taxi drivers who have notified SGT or CTI how many hours they plan to work the next day; these clusters can be configured for any number of hours each driver plans on working

The batch scheduling process takes about one minute to complete. During our visit, we saw that 5M scheduled 98% of 3,825 trips to runs from the day before, leaving 75 trips unscheduled. After the scheduling process is complete, the scheduler works as a dispatcher for the remainder of the shift. Certification trips are scheduled through a separate process by a dedicated certification trip scheduler employed by SGT.

Southern Region

Global's schedulers are currently performing scheduling using DDS, which has only a rudimentary scheduling capability, but will soon be transitioning to Trapeze.⁶ Global also uses a proprietary app known as Lync for scheduling taxi trips. For dedicated trips on Access vans, DDS uses an automated slot management system. Reservationists assign trips to time slots based on customer requests, and keep a written log of trips requested during filled time slots. Global employs four routers, with staggered shifts beginning at 6 p.m., 8 p.m., and 10 p.m., who schedule trips around the pre-scheduled subscription trips onto the set of dedicated runs for the next day of service. When creating these runs, Global attempts to schedule the subscription trips so that they are served by the same driver each day where possible (they reported that they are only able to do so for about 60% of subscription trips passengers).

Global has developed a proprietary app known as Lync that acts as a brokerage for non-dedicated service. Global schedulers develop 80-90 full-day dedicated taxi runs, as well as shorter trip clusters, that are uploaded to the Lync software. Access-certified taxi drivers can log into the Lync app on their smartphone and bid for runs or clusters they want to work the next day. Global estimates that about 80% of dedicated taxi runs created for Lync are bid on and served each day. These dedicated taxi runs represent approximately 40% of all Southern region trips on taxis each day, with the remaining 60% on non-dedicated clusters or one-offs.

There are typically 700-800 unassigned trips at the beginning of each day. About 85% of these trips go to taxis, with trips begin assigned by All Yellow dispatchers that work on-site at Global's Gardena facility. Global dispatchers schedule the remaining unassigned trips on Access vans throughout the day.

Northern Region

In the Northern region, MV uses Trapeze to perform batch scheduling and then re-optimizes every 15 minutes against existing vehicle tours or defined numbers of driver shifts. MV's aim is to keep unscheduled trips to 5% or less at the start of the day. There are currently 3 Full Time Equivalent (FTE) schedulers and an operations manager that creates the daily trip schedules from the master (day) templates onto which subscription trips are scheduled.

A Trapeze algorithm is being used to assign trips to the taxi subcontractors, focusing on all trips after 6:00 p.m. and on weekends and a growing proportion of trips during the day. Taxi trips are subsequently scheduled onto vehicles by taxi dispatchers, generally the night before and currently handling an estimated 20% of the longer subscription trips. Our understanding is that MV sends trips to SGT, who then uses 5M to cluster trips onto taxi mini-runs for a certain subcontractor.

⁶ Global had been using StrataGen's ADEPT software for scheduling, but discontinued it in anticipation they would be using Trapeze. When this was delayed, stemming from the unification project, Global began using DDS as an interim solution.

Antelope Valley

Trips are batch scheduled via Adept at the Keolis call center near LAX and then provided to the dispatchers at Keolis' Lancaster yard. Approximately 12% to 15% of trips are left unscheduled in the typical batch and must be manually inserted by a dispatcher as the service day unfolds. These vehicle runs are based in part upon historical experience, the existing vehicle fleet, and assigned driver schedules. When the requested time slot is full, the requested trip is placed on the waitlist and the trips are later manually scheduled.

Santa Clarita

MV uses Trapeze scheduling tools to assign trips to Santa Clarita Access vehicles. The afternoon dispatcher is responsible for reviewing Trapeze-generated schedules and modifying these to address possible late service issues. Weekday dispatcher shifts regularly start with some modest number of unscheduled trips but these are kept to a minimum.

Trip schedulers work to keep subscription trips at 50% of all trips. There are 20-25 riders on the subscription trips waiting list. Most subscription trips are scheduled for early morning and the afternoon with dialysis trips representing a significant portion of subscription trips. Dispatchers review subscription trips to find off-peak periods and to make decisions as to which trips can be accepted from the waiting list.

DISPATCHING

Eastern and West Central Regions

While their call center functions are consolidated, SGT and CTI continue to operate their dispatch function separately. Around 50% of trips in both the Eastern and West Central regions are performed by taxi subcontractors. SGT and CTI utilize similar dispatching workflows to account for this high rate of non-dedicated service. Dispatchers at both contractors have worked with TSS Wireless to tailor 5M software for their specific dispatching practices and protocols.

SGT typically has four dispatchers on duty during peak periods: a lead dispatcher that proactively addresses future unassigned trips and OTP issues, a dispatcher dedicated to Access vans, a dispatcher dedicated to taxis, and a dispatcher who acts as an intermediary supporting both the van and taxi dispatchers. The dedicated van and taxi dispatchers handle the radio for each group of drivers, with the intermediary dispatcher handling no-shows. CTI uses a similar approach, but with three dispatchers. The lead dispatcher acts as both a proactive dispatcher and the dedicated dispatcher for Access vans, a second dispatcher focuses exclusively on taxis, and a third dispatcher is in charge of the radio. The radio dispatcher also typically handles the majority of calls from reservations agents and Access customer service, while both the radio and taxi dispatcher handle no-shows requests from drivers and ETA requests that are forwarded from reservations.

SGT and CTI dispatchers begin each morning by clearing unassigned trips, as well as monitoring van and taxi pullouts. 5M leaves few, if any, unassigned trips after the batch scheduling process is completed. Dispatchers monitor the driver roster in 5M and identify van drivers that arrive late for their shift or are absent, reassigning their first trips to other van runs or to taxis when necessary. 5M also has a roster for taxi drivers that have notified SGT or CTI that they plan to work that day, and have agreed to take a full run or clustered trips. Taxi drivers are significantly more likely not to show up for assigned trips. The taxi dispatchers therefore spend much of their mornings reassigning trips from uncovered taxi runs. At about 7:15 a.m. during the site visits, SGT had approximately 70 unassigned trips and CTI had 40 unassigned trips. The majority of these unassigned trips were due to uncovered taxi runs. 5M provides several features to assist in the trip reassignment process, including several filters that allow dispatchers to

prioritize which trips they reassign first (such as trips projected to be late in the next hour) as well as suggestions for which runs could fit unassigned trips. TSS Wireless designed these tools with the input of SGT and CTI staff, and dispatchers appear to rely on them heavily.

CTI dispatchers noted that the location of their operating facility significantly affects morning operations. The study team observed that many van drivers whose runs started on the Westside were late to pick up their first trip, primarily due to traffic on the 10 freeway going towards Santa Monica. These initial late pick-ups caused a cascading effect throughout the morning, in which dispatchers removed trips from delayed vans and reassigned them to another van or taxi. This regular trip reshuffling process for the Westside consumed much of the dispatchers' attention throughout the day.

SGT and CTI dispatchers also noted several ongoing software issues affecting their workflows, though all noted that 5M is a significant improvement over their previous software package. CTI's dispatchers noted that 5M appears to preference maximizing ambulatory passengers on van runs (Access vans can hold four ambulatory passengers versus one to two passengers using wheelchairs). They typically try to redistribute these ambulatory passengers to taxis, in order to create more flexibility to move wheelchair trips between van runs. This practice appears to increase the number of runs that dispatchers have to alter each day. The taxi dispatcher verbally confirms with each taxi driver that they need to refresh their MDT in order to see changes such as add-ons. This increases the amount of time dispatchers spend communicating with operators. However, TSS Wireless staff notes that the MDTs used by taxi drivers automatically refresh, so this practice may be a holdover from a previous software package.

Southern

Global was using DDS at the time of our site visits, but is currently in the process of transitioning to Trapeze. DDS lacks automated features common to modern dispatching software packages, significantly increasing the staffing requirements for the Global region. During the observed shift, Global had 15 dispatchers on duty performing the following functions:

- 5 dispatchers that split scheduling unscheduled trips and addressing OTP issues. These dispatchers generally split up work by time period, with several proactively addressing unscheduled trips in the afternoon and evening. At least one of these dispatchers focuses exclusively on immediate OTP issues.
- 2 dispatch assistants exclusively fielding ETA calls from the OMC and making customer no-show authorizations.
- 4 dispatch assistants fielding ETA calls from customers.
- 1 dispatcher monitoring dedicated runs and non-dedicated taxi trips scheduled through the Lync software.
- 2 taxi dispatchers employed by All Yellow that directly communicate with taxi drivers and monitor non-dedicated service.
- A window dispatcher who also functions as a dispatcher, with the ability to make schedule adjustments if a vehicle is downed based on a pre-trip inspection or if a driver leaves the yard late.

Global also employs a single voice dispatcher that handles all communication with drivers, including addressing driver issues and escalated ETA requests.

Northern

Generally, MV has three to four dispatchers on duty during peak periods with the following types of assignments:

- Addressing “Late 4” trips, as well as the minimal number of unscheduled trips remaining after the batch scheduling process
- Addressing ETA calls for taxis or other ETAs that end up in the dispatch queue
- Responding to passenger no-show reports from drivers, either by providing authorizations to drivers or contacting the OMC in the case of a no-show vehicle-to-vehicle transfer trip
- Responding to driver messages which are largely no-shows and lunch requests; the dispatcher performing this function also handles subscription trips
- In the afternoon, the lead dispatcher reviews vehicle and trip tour assignments for the next day

As mentioned above, the scheduling function is heavily automated with re-optimization routines run all day to minimize the number of unscheduled trips for the morning dispatcher. After addressing the unscheduled trips, dispatchers make some changes to the Trapeze-scheduled trips on the day of service to address late trips but they rarely adjust trips within the next 30 minutes as these are already on drivers’ tablets. If a change is made immediately impacting a driver’s manifest, the dispatcher will coordinate with the driver verbally.

MV’s use of dedicated vehicles decreased over the past year due to increased use of non-dedicated taxis. Trips on non-dedicated vehicles increased from 18% to 44% from FY 2016 to April 2017. For the two prior years, just 2% of trips were on non-dedicated vehicles. MV trips on dispatchers’ manifests are live and accommodations can be made to go back, or send to a different vehicle for a very late trip pick-up. Taxi dispatched trips are not live. MV dispatchers must call taxi contractors if they need an ETA or are seeking information about a given trip. MV dispatchers may request details to help the rider identify the vehicle, including vehicle color and vehicle number.

Antelope Valley

Keolis currently uses Adept for dispatching, but is considering moving to another platform. There are generally three dispatchers on duty during the AM peak period and two to three dispatchers on duty in the afternoon peak, managing a 100% dedicated vehicle fleet that exclusively serves Access Paratransit trips. Dispatchers are cross-trained to address unscheduled trips, manage calls for ETAs, move late trips, schedule vehicle-to-vehicle transfer trips, schedule driver lunches, and address driver in-service issues. Dispatchers constantly monitor Transit Miner screens to identify emerging OTP issues and to monitor late pull-outs by drivers. Senior management sometimes steps in to assist dispatchers when OTP has dropped severely and trips need to be quickly moved among vehicles in the field.

Dispatchers regularly face operational challenges due to absent drivers, often starting the day with an insufficient number of drivers to field all scheduled vehicles. Dispatchers reported being consistently two to three drivers short, with significant operational consequences as trips are redistributed to other runs. During our site visit, there were no extra-board drivers available to serve uncovered runs. The general manager reported that Keolis often cannot take actions against absent drivers since there are not enough drivers available overall. Overtime for reliable drivers is significant and the road supervisor indicated that it is not uncommon for her to fill in on unfilled runs several times per week.

The early dispatch shift addresses unscheduled trips and begins to monitor late and potential late trips, identified using Transit Miner and Adept. During the site visit, 44 out of 542 trips (8%) were unscheduled at the start of the day. Schedulers try to hold unscheduled trips to below 50 at the start of the day, and dispatchers view more than 60 unscheduled trips as problematic.

Special go-back procedures may be instituted when a passenger they have already transported one-way is marked as a no-show and then the rider calls in for an ETA. Usually dispatch reschedules them for a new time, to ensure that they are not stranded.

Santa Clarita

The MV operation in Santa Clarita operates with 100% dedicated vehicles; however, Access trips may be dispatched to the Access vehicle fleet or trips for Access eligible riders may be placed onto any of the Santa Clarita dial-a-ride's vehicle fleet. Generally, there is one dispatcher available during peak periods who is responsible for both Access and dial-a-ride services. Additionally, the paratransit program manager and fixed-route supervisors are available if passenger incidents or other immediate issues present.

There is some complexity around scheduling trips across the two services – the Access fleet and the city dial-a-ride fleet – because the service areas are somewhat different. Specifically, the county areas of Canyon Country and Sand Canyon to which fixed-route service goes are eligible trips for Access-certified riders but not for city dial-a-ride users whose trips are restricted to city limits. While the Trapeze software sorts out these differences based upon rider eligibility, it is reportedly confusing to the riders who don't understand why one passenger can make a given trip and another cannot.

Another area of confusion that sometimes presents to dispatch is that the city dial-a-ride has a 30-minute on-time window, fifteen minutes before or after the scheduled pick-up time. This contrasts with Access' 20-minute window, zero minutes before and up to 20 minutes after the scheduled pick-up time. This sometimes leads customers to be confused about the on-time window when making ETA calls.

Dispatchers are handling responsibilities that include call-backs to those requesting it, rescheduling late trips, addressing vehicle and equipment problems that impact street operations, answering calls directly from riders for ETA calls, and cancellations where the rider calls directly into the dispatch number rather than through the call center.

For vehicle-to-vehicle transfer trip requests, transferred directly from the reservations, dispatchers are handling all of the paperwork and entering trips into the transfer trip Excel spreadsheet, including ensuring that the trip identification numbers are complete for those transfer trip requests that originate from the Santa Clarita service area.

The "no late vehicle" policy is strictly enforced with a field supervisor checking each vehicle as it leaves the yard – all Access vehicles, city dial-a-ride vehicles, and the fixed-route fleet of 75 buses. If an Access vehicle has a mechanical problem, the dispatcher can authorize a city dial-a-ride vehicle to replace it in service. Similarly, the city dial-a-ride service provides back-up to Access if there are overflow trips during time-periods that cannot easily be served or unscheduled trips that do not fit onto existing Access runs.

Day-of-service dispatched trips are sent directly to drivers' on-board MDTs in two-hour blocks of time. When dispatch modifies a drivers' schedule, generally to address a potential late trip situation, and that must be done within the two-hour block, the driver is radioed about the change. Drivers and dispatch were observed to regularly communicate verbally, in addition to communications through the MDTs.

The morning dispatcher handles ETA calls, rescheduling late trips, scheduling remaining unscheduled trips, managing cancellations, and confirming no-shows. The dispatcher manually places call-out calls to those that have requested it as there is no mechanized system, although both a.m. and p.m. dispatchers wish there was a computerized capability for this. The morning dispatcher is responsible for assigning vehicles to tours and to scheduling vehicles for their CNG fueling which is sometimes mid-shift.

The afternoon dispatcher handles many of the above functions as well as reviewing transfers and clearing any problems or late trip issues. The afternoon dispatcher is reviewing the batched schedules for the next day trips, to identify later trip or other issues and building trip solutions for the next day's unscheduled trips. About half of the afternoon dispatcher's time is spent in working with the Trapeze output for the next day trips.

The afternoon dispatcher may call in the extra board drivers as needed for the next day, or they be called in by the morning dispatcher on the day of service. There are usually one to two drivers available for those instances when additional drivers are needed.

BEYOND THE CURB REQUESTS

Access traditionally operated as a curb-to-curb service. With curb-to-curb service, drivers pick up and drop off passengers at the curb, but will not assist customers in traveling between the curb and their pick-up or drop-off location. Over the past few years, Access has formalized an origin-to-destination service known as Beyond the Curb (BTC) to address FTA policy on accommodating origin to destination customer needs. With BTC service, drivers will assist customers in traveling between the Access vehicle and up to the door of their pick-up or drop-off location, with certain conditions. BTC is not a door-through-door service, meaning that drivers cannot physically enter the pick-up or drop-off location. Additionally, drivers can only fulfill a BTC request when they can park legally and maintain visual contact with their vehicle. During the eligibility screening process, Access determines whether a customer requires BTC service on a regular or occasional basis in order to use the system successfully. However, Access policy gives drivers leeway to provide beyond the curb assistance when requested, as long as they otherwise follow regulations.

Access contractors noted that they had been informally providing some level of beyond the curb service before Access formalized the BTC program. Drivers noted that they frequently assist customers between the door of their pick-up location and the vehicle in order to save time during pick-ups. Reservationists at all contractors said that few customers make formal BTC requests while making a reservation. Instead, most customers, whether they are eligible for BTC or not, ask drivers to perform BTC functions during the course of a trip. None of the contractors had a formalized process for modifying estimated travel times based on a BTC request, and most software only allows BTC requests to be entered as a comment on the trip reservation form. Dispatchers generally build some extra time into the schedule when they see a passenger has requested BTC service. Drivers are able to see the BTC comment request on their MDTs.

Drivers noted that they often have difficulty fulfilling BTC requests in large complexes such as hospitals, malls, and college campuses. Several suggested that dispatchers add additional slack time in their schedules for BTC requests. Drivers also said some customers request BTC service for addresses in gated communities, without pre-clearance from Access. Drivers sometimes have to reject BTC requests when they cannot maintain visual contact with the vehicle, which they said leads to complaints about inconsistent service from passengers.

VEHICLE-TO-VEHICLE TRANSFERS

Access Paratransit serves a limited number of long-distance and inter-county trips that require a vehicle-to-vehicle transfer. Transfers are required for three categories of trips:

- Trips between the four LA Basin regions and Santa Clarita or the Antelope Valley. These are coordinated by Access contractors and occur at the Olive Medical Center in Sylmar. About 555 of these transfers were completed in October 2016.
- Trips between Santa Clarita and the Antelope Valley. These transfers are coordinated by Access contractors and occur at a secondary transfer location in Newhall. Just six of these transfers were completed in October 2016.
- Most trips between Los Angeles County and Orange County or San Bernardino County (apart from limited areas in both counties that are within the Access Paratransit service area). Transfers from Access to paratransit services in neighboring counties must be coordinated by the customer

and are not guaranteed by Access. No data on these transfers was made available to the study team.

Access considers coordinated transfer trips between the LA Basin, Antelope Valley, and Santa Clarita to be a premium service, as there is currently no fixed-route transit option between the three geographic areas. Riders traveling between the LA Basin regions and Santa Clarita or the Antelope Valley, which comprise the vast majority of transfers, must be delivered to the transfer point at least 30 minutes before three designated transfer times (7:30 a.m., 1:00 p.m., and 6:00 p.m.). Trips between the transfer point and Antelope Valley/Santa Clarita are served by Keolis and the City of Santa Clarita/MV in both directions. The Northern region provider (MV) serves all trips from the transfer point to the LA Basin, and the origin contractor serves trips from the LA Basin to the transfer point (i.e. MV, SGT, CTI, or Global). Unlike typical Access trips, customers making round trips involving a transfer only need to contact the origin contractor to make a reservation. The origin contractor is then responsible for coordinating with the other contractors to schedule all segments of the round trip, including the return trip.

Access contractors noted that transfers, while limited in volume, are complicated to coordinate and take a disproportionate amount of time compared to other trips. Each designated transfer time involves coordinating customers making long trips served by multiple contractors, all of which need to arrive at the transfer point within a 30-minute window. Congestion, customer no-shows, and other delays can result in long delays at the transfer point for some riders.

4 ACCESS MANAGEMENT AND OVERSIGHT

BOARD OF DIRECTORS AND ADVISORY COMMITTEES

Access is a public entity overseen by a Board of Directors. On the nine-member Board are representatives from:

- Los Angeles County Metropolitan Authority (Chair)
- County of Los Angeles, Board of Supervisors (Vice Chair)
- Los Angeles Municipal Operators
- City of Los Angeles' Mayor's Office
- City Selection Committee's Corridor Transportation Representative
- Los Angeles County Commission on Disabilities
- Los Angeles County Independent Living Centers Collaboration
- Two local operators

Access and its Board are also guided by two standing committees:

- A Community Advisory Committee (CAC) composed of Access Paratransit customers and advocates
- A Transportation Professionals Advisory Committee (TPAC) composed of representatives from some of Access' member transit agencies and other transportation professionals from the region

The Board and the two Advisory committees each meet once a month on separate days.

DEPARTMENTAL ORGANIZATION

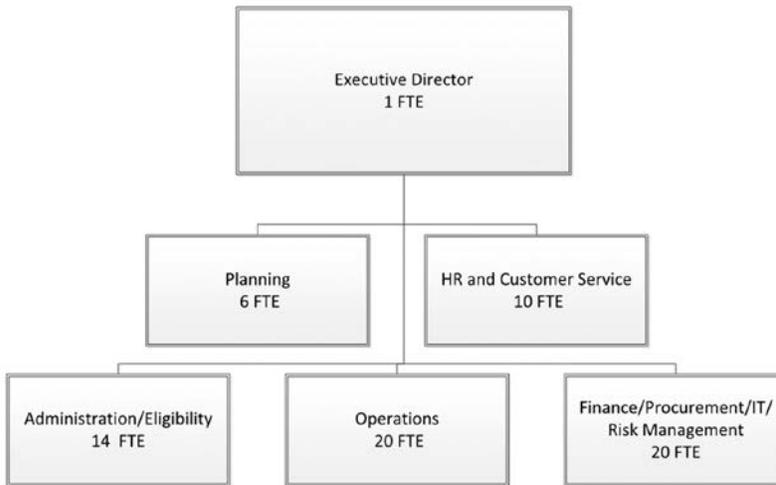
Access is organized into five departments:

- Operations & Safety
- Finance
- Planning and Governmental Affairs
- Human Resources
- Administration

Figure 4-1 illustrates the relationships between these various departments.

With the purpose of this study in mind, our focus for this section is the Operations and Safety department, which is headed by the Deputy Executive Director of Operations and Safety and organized into three sections (1) Fleet Design and Maintenance; (2) Operations; and (3) Road Safety. Each of these sections is described below.

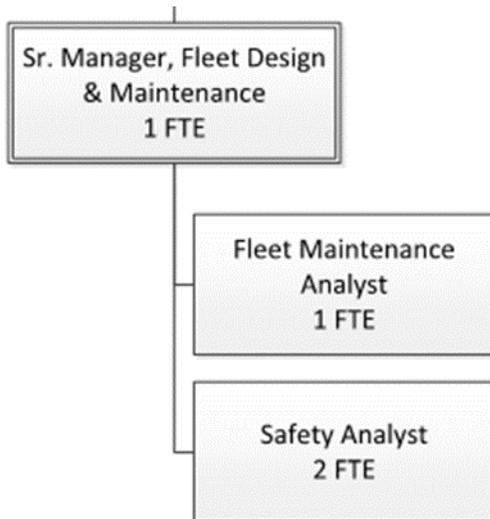
Figure 4-1 | Access Organizational Chart



FLEET DESIGN AND MAINTENANCE OFFICE

This Fleet Design and Maintenance office is staffed by a Senior Manager, a Fleet Maintenance Analyst, and two Safety Analysts, as shown in the organizational chart below in Figure 4-2.

Figure 4-2 | Fleet Design and Maintenance Office Organizational Chart



This office oversees all acquisition, allocation, disposal, specification development, bid analysis, vehicle maintenance, preventive maintenance program development, and overall costs ensuring the effective and efficient use of resources.

The Fleet Maintenance Analyst is responsible for:

- Conducting vehicle inspections on a quarterly basis, i.e., ensuring that every vehicle is inspected and photographed (front/rear and condition recorded) annually for the TAM plan.
- Performing vehicle health audits on random vehicles. These audits are undertaken on a bi-monthly basis covering all service providers, and focus on different areas of interest.

- Performing taxi certification and auditing of the maintenance records of the contractor and the certified taxicabs. Shop managers do the physical inspections of the fleet, while the Analyst verifies information.
- Monitoring Access staff vehicles (17 units), coordinating maintenance and wash scheduling.
- Generating monthly vehicle reports.
- Performing vehicle inspections for (a) vehicle transfers; (b) in-service replacements/expansion vehicles; and (c) retired (surplus) vehicles going to auction.
- Tracking and analyzing fleet service performance indicators and monthly maintenance records
- Tracking and notifying providers of preventive maintenance and emissions requirements.
- Assisting the Fleet Manager in identifying replacement vehicles and expansion vehicles by type and by service provider contractor.

Vehicle Purchasing and Retirement

Access supplies vehicles to its contractors, roughly using a ratio of one vehicle for every 400 trips per month as a guideline. The exact fleet composition is determined by the Fleet Manager in consultation with the service provider contractors, as follows: For replacement vehicles, Access generally will replace a vehicle being retired with same the vehicle type. For expansion (based on increases in ridership), Access will generally provide contractors with the vehicle type they want (van, MV-1, or cutaway). Note that sedans are no longer being purchased; the sedans that are currently in service are being replaced by minivans as they are retired.

Vehicles are purchased with both Section 5310 and Prop C funding, through a joint procurement administered by CalACT, which uses the Morongo Basin Transit Authority as the lead agency. As a result, Access is not required to conduct its own procurement for vehicle purchases. There has been a significant expansion of vehicle options on the procurement lists from which Access can choose. Access did conduct a one-time procurement of MV-1 vehicles on its own because there was not an MV-1 on the CalACT list at the time, but this has since been rectified.

Access utilizes third-party inspectors to complete the vehicle assembly inspection, with final inspection conducted on-site at the bus distributor in California.

The agency projects that it will procure about one hundred fifty (150) vehicles in 2017. The Access dedicated fleet currently totals 737 Access-owned vehicles, consisting of 533 Minivans, six sedans, 90 cutaways, 101 MV-1 vans, and seven other vehicles. All but the sedans are wheelchair accessible. The primary vehicle purchased has been Dodge Minivans. Over time more than two thousand (2,000) have been purchased.

The 737 vehicles that Access provides to the service provider contractors represent about 35% of the fleet. The contractors collectively provide an additional 79 contractor owned vehicles. There are also 1,318 certified taxicabs in the fleet, noting that the number of certified taxis has increased by around 60% since 2014. The Fleet Design and Maintenance Department keeps maintenance records for -- and inspects -- all vehicles that provide Access trips.

Access' guidelines for vehicle replacement is four (4) years or two hundred fifty thousand (250,000) miles, noting that Access vans typically on average operate 60,000 to 70,000 miles per year. However, some of the service providers do not use their Access-provided vehicles in the same intensity as other contractors, and as a result they still operate vehicles that are over four-years old but well under the 250,000 mile guideline.

Based on the forecast increase in ridership, Access plans to expand the fleet by approximately 50 vehicles per year for the next five years, according to the five-year capital plan. Current projections show the vehicle fleet increasing from 741 vehicles at the end of FY 2016-2017 to 961 vehicles in 2020-2021.

While the five-year capital plan does not specify the exact usage of these vehicles or how that usage might be impacted by the service contractors' specific service mix, the plan is updated annually based on the formula above and discussions with the service provider contractors.

Vehicle Inspections

The contractors perform Preventive Maintenance Inspections (PMIs) every 3,500 miles or 45 days. Each inspection takes 1.5 hours.

The Fleet Analyst conducts monthly spot checks on vehicles, rotating through the contractors. This inspection is not as complete as a PMI and takes approximately 40 minutes per inspection. On a random basis, the analyst picks hot topic items for review.

Road Safety Inspectors (RSIs) perform observations in the field that include inspections for body damage, tires, or check engine lights. These inspections take approximately five to ten minutes. Roll outs (by RSIs and OSMs) are conducted unannounced at one provider per month. SmartDrive triggers inspections and reports on events. Staff can then determine how long the check engine light has been on. Access will take vehicles out of service until they are repaired for certain check engine light categories. A full inventory, including pictures of the complete fleet, is conducted on an annual basis.

In Vehicle Equipment

All other on-board equipment such as mobile data terminals (MDTs) and radios are owned by the service provider contractors. The one exception is the SmartDrive system which is procured by Access via a contract with a base five-year term, with two two-year options.

Safety Programs

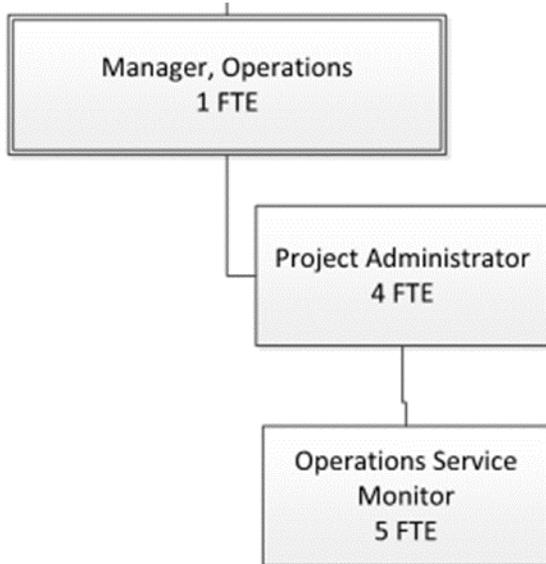
The Safety Analysts are responsible for:

- Developing and implementing safety programs and campaigns for all operations
- Conducting facility safety inspections
- Conducting new employee safety orientation for Access staff
- Conducting collision and incident investigation (root cause review)
- Holding monthly safety meetings for all providers, operations representative and risk management
- Monitoring the SmartDrive system
- Evaluating system-wide trends
- Adding to and backing up the Fleet Department's database with new vehicle files, taxi and maintenance audits
- Developing a Paratransit Instructors network
- Implementing the Safety Management Systems (SMS) programs; these consist of Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion

OPERATIONS OFFICE

This office is staffed by a Manager of Operations, four Project Administrators, and five Operations Service Monitors (OSMs), as shown in the organizational chart below in Figure 4-3. The PAs and OSMs are assigned by region. The Southern region has two OSMs due to its size.

Figure 4-3 | Operations Office Organizational Chart



This office is responsible for daily management and monitoring of key performance trends, review of performance and operational statistical data, and contract procurement oversight and scope of work development processes. It also ensures contract compliance, and generates reports necessary to ensure quality service delivery.

Project Administrator (PA) functions include:

- Directing the OSMs
- Analyzing the efficiency and effectiveness of paratransit operations
- Resolving issues requiring contract clarification
- Preparing and developing scope of work for service contracts
- Communicating policy changes and clarifications to staff members
- Communicating contract issues and updates to management
- Reporting performance data
- Conducting service provider on-site visits
- Contacting the public for resolution of customer issues
- Attending public meetings and hearings

Operations Service Monitor (OSM) functions include:

- Ensuring providers meet performance standards and comply with contracts, policies, and procedures
- Monitoring reservation processes
- Meeting with provider staff to review and discuss performance
- Investigating and reporting unsafe operating practices or vehicle conditions

- Participating in community outreach activities
- Providing training guidance to provider staff
- Performing various audit and reporting functions

Currently the project administrators have no real-time data to analyze. On a typical day, staff checks on-time-performance (OTP) from the prior day. They compare that data to the Operations Report from the previous day. KPI reports are communicated by email. Operations staff reviews the prior day's activities and attempts to remedy problems for the future. When problems arise, operations staff asks providers to provide action plans.

Call Center Monitoring

Each OSM is assigned to a different region, although as stated previously, the Southern region is large enough to warrant two OSMs. Time spent at the operators varies depending on size of contractors and travel time/geographic considerations. Specific duties include review of the call center, observing up to 100 calls/month. The monthly goal is to listen to at least 75 trip negotiations for each region to determine if there were any denials, a practice that was established in response to software limitations when the agency changed to next-day reservations and there was no document trail of denials. Each OSM spends four days per month on this task. However, since there has not been a pattern of denials for some time, this procedure can probably be discontinued.

A quarter of the OSMs' time each week is devoted to observing call-takers, in addition to reviewing estimated time of arrival (ETA) calls. Most OSMs try and conduct weekly on-site visits in which they observe dispatchers and drivers, recording their observations on a tablet. On a quarterly basis they also conduct audits of call-taker training. Another OSM responsibility is to review the files of all new call-takers. In on-site visits, OSMs focused on late trips, no/shows, and the quality of conversations with call-takers.

Driver Monitoring

Vendors inform the OSMs when they hire new drivers, which can sometimes reach volumes of 20 per week. Sometimes OSMs conduct vendor site visits more frequently if situations arise. After drivers have been released into service, OSMs review the driver file, review and enter into the database training documentation, and send approval to the contractor to deploy the driver after sending the report to Access management and to the PA for that region. If the drivers are already on the road, and the vendors have not waited for the release of this report, Access has the right to pull the driver off the road if they don't comply. However, this happens very rarely, approximately once in six months, and contractors are not paid for trips conducted by unqualified drivers. Included in their review are the driver's license, medical card, LiveScan, H6 from DMV riding history, and notes from their training. Training hours vary by contract, but fall in the range of 50 to 90 hours. Until six to 12 months ago, training was 80 to 90 hours (including four to six hours each of sensitivity and defensive training, depending on the contract), but the vendors requested and received permission to change the hours to be based on a train to proficiency standard for drivers who may have various levels of prior experience and training.

Besides filing inspections for new drivers, OSMs also review the files of 10% of current drivers on a quarterly basis. They review the pull notice, medical card, and any arrests that may have occurred subsequent to the hiring process. The OSMs first have a verbal conversation with the safety or operations manager about each of the drivers before conducting their reviews. While reviews are usually pre-arranged, if an accident occurs, the OSMs can drop in unannounced.

In addition to the quarterly sample, OSMs review 100% of drivers' files once a year. While this represents an increase in OSM responsibility, there has actually been a decrease in staffing. The OSM who left in

October 2015 has not been replaced, and there are currently a total of five. The OSMs interviewed indicate that more staffing would be helpful.

OSMs help each other with the annual audit, which is conducted as a group at each vendor. They conduct quarterly pull-out vehicle inspections, which are also conducted by the Access Safety and Fleet division, in addition to some of the contractors' own inspections.

The contractors conduct initial investigations and provide responses to complaints filed against them. Access Customer Service audits those complaints. The contractor has seven days to respond to complaints. OSMs get reports if they exceed that time limit so that they can follow up with the contractor. If the contractor has not been given enough guidance on investigations, the complaint will be reopened. If there is a complaint about a driver, the contractor investigates and makes sure the driver is retrained.

OSMs are the "eyes and ears" for the PAs because they conduct the on-site visits. Their role in regard to the vendors is to provide guidance in achieving compliance. They are not allowed to provide any direct guidance to employees, and mostly interact with the vendors' management team.

OSMs also participate in outreach to customers, sometimes accompanied by Mobility Management staff. Their role is to provide input on the operational aspects of the program, and to be able to respond to customer concerns about service issues. This role is in contrast to the Mobility Management staff, who focus more on explaining the program and the application process.

Current projects being undertaken by this staff include maintaining the subscription trip database, performing a transfer trip analysis, and updating the Rider Guide.

ROAD SAFETY OFFICE

As shown in Figure 4-4, this office is staffed by a Senior Road Safety Inspector and four Road Safety Inspectors.

Figure 4-4 | Road Safety Office Organizational Chart



Major functions of this office include accident investigation and monitoring contractor accident investigations. Road Safety office staff also monitor the following areas: safety issues; vehicle safety inspections; SmartDrive training performance; and drivers in the field. Office staff audit driver post-accident training, drug and alcohol training and testing records, and investigate passenger complaints related to safety. This office also coordinates lost passenger activities in the field, conducts safety evaluations for passenger pick-up and drop-off locations, as well as other duties such as attending all driver safety meetings. They also perform special event coverage to ensure that operations go smoothly, performing such tasks as providing support to drivers and liaison functions with the special event staff.

The office is operational from 5:00 a.m. to 8:00 p.m. on weekdays, and from 8:00 a.m. to 4:30 p.m. on weekends. Road Safety Inspectors are not assigned by region due to the limitations of having only two on

the street at a time (in each AM and PM shift). They are assigned to major activity generators several times a week which keeps them spread out. During 2016, this group performed over 1,899 driver observations.

Root cause accident reviews are conducted by this office, including analysis on how to prevent future occurrences. Incidents are documented, and a driver interview is performed to determine how and why the accident occurred. The office responds to about 18% of all accidents and incidents, and all major incidents. The office also audits provider reports on collisions and incidents.

The office performs vehicle inspections and audits safety-related training programs. They also monitor SmartDrive training and utilization. The SmartDrive equipment is capable of reporting with both video and audio but audio is not turned on. The office assists in finding missing passengers in the field. Staff utilizes Dodge vans and can transport passengers if necessary.

Access has a database for alternative pick-up and drop-off locations. This information shows up in the driver trip notes. The group performs about thirty (30) of these evaluations per month. Additionally, this group administers a stand program. This is a signage program for high-volume locations. UCLA has eight (8) such stands, and there are seventy-three (73) stands in total.

Inter-Division Activities

Under the direction of the Deputy Executive Director of Operations and Safety, the Operations and Safety Division interacts with other Access Divisions for the following ongoing efforts.

Monitoring Service and Cost Performance

Access' Operations & Safety Department in conjunction with the Finance Department monitors operating service and cost performance indicators, respectively. Operations' role is to verify the accuracy of the vendors' reports and key metrics and trends, while Finance focuses on cost performance, especially leading up to a re-procurement.

Daily performance metrics are compared to overall trends to identify any outliers and if there are any missing KPIs. The two most critical KPIs are on-time performance and telephone hold times – e.g., if staff observe an OTP of 85% instead of the target 91%, they will examine potential causes of the problem.

The agency's metric for telephone hold times is that no more than 5% of calls can be on hold for more than 5 minutes. However, staff is not concerned if these are intermittent predictable events (e.g. Sunday night due to heavy load of requests for next week) and if the operator only slightly missed the target.

Policy Development and Planning

The policy development process involves all relevant departments. The schedule for policy development is set by the project.

The Strategic Plan that was initiated three years ago involved compiling mini-plans from each of the departments. Staff reportedly feels positive about the document, although it was somewhat short on specifics. The approach to strategic planning is changing so that future efforts will have more "teeth". Plans will become like a Transportation Improvement Program (TIP), including a list of calls for projects, each of which will be a line item in the budget.

Staff's intention is for the plan to be a narrative/guiding document that will be updated yearly. Access will roll into each upcoming budget item projects that were included in the Strategic Plan. As in previous years, once the plan has been developed, Finance creates a budget and then management meets with Metro to discuss their proposed budget

All policies require peer review, agency, and community outreach. Customer service and other affected personnel receive training on new policies.

One of the key planning issues addressed by this department was the origin to destination issue. Access was initially concerned about new FTA guidance on origin to destination requirements, and budgeted additional funds to address potential cost increases. However, these did not materialize as the new policy of beyond the curb service has not had a significant impact on operations.

Operations Contractor Procurement

Access' staggered operating contracts are for an initial five-year term with options for an additional five years. The current contractors are listed in Figure 4-5 below:

Figure 4-5 | Current Service Providers

Region	Contractor	Contract End Date	Remaining One-Year Options
Eastern	San Gabriel Transit	3/31/19	5
West Central	California Transit	10/31/17*	0
Southern	Global Paratransit	8/31/19	2
Northern	MV Transportation	7/31/18	5
Antelope Valley	Keolis	4/30/20	2
Santa Clarita	City of Santa Clarita/MV Transportation	8/3/17	1

*California Transit was recently awarded a new contract to continue serving the West Central region, which begins on 10/29/17 and ends 10/28/22. The contract includes four one-year options, pending board approval.

The procurement process for service provider contracts takes about 18 months, with the technical review and price review conducted by separate committees. Similar to its peers, Access' evaluation of proposals utilizes a "best value" approach. Both practices are consistent with the industry experience and appropriate. It should be noted however that cost reflects only a 20% share of the total number of points, which by industry standards is on the low side compared to the more common 30% to 40% range. As an example, this split may have been a contributing reason why MV Transportation, coming in with the highest cost, was selected as the best value for the Northern region in that region's last procurement.

The Access Request for Proposals (RFP) does ask for line-item costing per contractual year, which is a best practice in the industry, enabling a more effective and efficient analysis of costs. That said, it is also important to have somebody who is familiar with the technical review participate in the analysis of line-item costs, as sometimes such costs are inconsistent with the technical proposal.

For the main contracts, the rate structure is a split rate: fixed costs are paid via a monthly fee, while variable costs are paid by the trip. This is not unusual for the industry, especially with systems that, like Access, employ a high usage of taxis, for which a revenue hour is measured differently from a dedicated vehicle. DART in Dallas for example also pays its turnkey contractor by a split per trip rate, acknowledging that the contractor's taxi subcontractor serves 70% of the trips. Also paid on a split per trip basis is the primary taxi-based contractor serving ADA paratransit trips outside of Phoenix. The same is true in Boston where non-dedicated taxis and other non-dedicated service among the contractors are employed. In contrast, Pittsburgh's ACCESS contractors are paid based on a per hour rate, noting the 100% dedicated service system. Similarly, from the (draft) mid-study report of TCRP J-o7 Topic SG-14 on *ADA Paratransit Service Models*, we found that all of the other six systems with turnkey contractors (performing all or most call center functions and service delivery with dedicated vans) are paid by the RVH. To us, this indicates that contractors' use of non-dedicated service seems to be the determining factor in a transit agency opting to use a split per trip rate.

In the case of the certifications trip contract, SGT is paid per RVH (first pick-up to last drop-off less a scheduled break).

With the staggering of procurements, RFPs have been adjusted more or less on the fly. However, with the recent procurement in the West Central region, there was a specific effort to revamp the RFP and contract using best practices from the industry. For example, this included adding additional standards for certain performance metrics, such as a complaint frequency ratio standard.

One last issue is related to the treatment of operations/maintenance facilities in Access' contracts. One of the reasons that non-incumbents have difficulty competing with incumbents is the lease/purchase cost of an operations/maintenance facility. Virtually all of the incumbents either own their facility or have a long-term lease. One of the issues to be explored later in this report is whether or not Access owning or leasing the operations facilities would lead to (1) more proposers; and (2) an easier swap-out of contractors, especially given that there is less industrial land available due to increased development and increases in the cost of that industrial space because of supply and demand. The costs and benefits of owning or leasing operations facilities are discussed further in Chapter 8.

Data Management and Reporting

Access has substantial strengths in the areas of data management and reporting. The agency has two consolidated databases. The first is for the TASKE telephone reporting system. Data from the Automatic Call Distribution (ACD) systems of the four service providers in the LA Basin is combined into a single system that enables analytic reports to be developed that show how well the providers are doing in managing reservations and ETA/trip status calls. This includes such key performance indicators (KPIs) as average speed of answer, percentage of calls that are on hold for more than five minutes, percentage of calls that are abandoned, and other typical call center performance measures. The much smaller Santa Clarita service has its own reporting tools to track these KPIs, and Excel is used by the Antelope Valley service provider for reporting purposes.

The second consolidated database is for operational data; such data from all of the service providers is consolidated in the ATBOS system data repository that is located at Access Services headquarters, and was developed by TSS Wireless, the same company that developed 5M. This data repository uses a SQL Server database that underpins ATBOS. During the operational day, the service provider contractors use ATBOS in their own environment for reporting on their individual operations. At the same time, data is uploaded to the central ATBOS database throughout the day. This enables staff at Access headquarters to have visibility into the operational performance in each service region, both for the same day operations and future day reservations.

Since January 2015, Access has used Tableau as an analytic reporting tool for tracking performance of the service providers. Tableau is used to report on the phone system performance (using data from TASS) and on operational performance, such as the on-time performance of service providers, ridership trends, and a number of other KPIs using data from ATBOS. The Tableau reporting application includes both data visualization elements and summary reports on performance. The reports are of very good quality and the use of Tableau provides the agency with the opportunity for both analysts and end users to obtain sophisticated, insightful views of information.

The KPIs for all of the reporting systems are established by the Access staff, not the service contractors. The ATBOS system itself can determine and display a wide range of performance measures, but only the KPIs used by Access are included in the Tableau application. At the same time, the data analysis staff is focused on developing additional analytic reports in Tableau to supplement the ATBOS reporting, as that is a more user-friendly environment for Access management and staff to review KPIs and other measures of operational performance.

The IT team also chartered the development of a smartphone-based “Where’s My Ride” app by IT Curves, and is in the process of rolling it out to the general user population. The app works for all of the services and all of the software systems used by the providers, and was a major initiative. It appears to be highly functional and of excellent quality and will hopefully lead to a substantial reduction in phone calls for this trip status information. This is another initiative that is grounded in the data management functions of Access Services.

Invoice Processing

Invoices are submitted twice a month for variable expenses. The accounting periods are the 1st through the 15th, and the 16th through the 31st. Fixed expenses are invoiced once a month. Backup materials for the invoices are in ATBOS. Santa Clarita is not using ATBOS. Any additional billing for out of the ordinary trips comes in Excel. All invoices are audited, semi-monthly, monthly, and quarterly. These reports are generated by the Finance Department. The timeline between the original submittal and the audited response is usually one week. If discrepancies are noted, the contractor must resubmit the invoice.

For internal purchases, there is a concern that it takes too many signatures to process a request for purchase. Signoff must be obtained by the department manager, controller, and procurement. Receipts require signoff by procurement and accounting. The Executive Director must sign every invoice. Invoices over \$50,000 must also be approved by the Board Treasurer.

IT/Software Licensing and Support/T-1 Lines/Bridges for Transferring Data 800 lines

The Access Services IT system must support the process for moving and managing data for both the telephone system and the operational data. This involves the hardware, systems software, networks, and application software needed to make this data infrastructure work.

The process for consolidating the operational data from the different service providers into a centralized ATBOS data repository involves each provider using an FTP mechanism to transmit three data files—a trip file, a GPS file, and a Google Earth file—from their host system to the ATBOS data repository at Access. For the SGT-affiliated services, the contractor already uses ATBOS locally, so this is a simple process. For the other services, the service provider is responsible for programming their system (Trapeze, Adept, etc.) to generate these files and then using FTP to deliver them to the Access Services data repository. There is a several hour process of verifying the data using the ATBOS validation mechanisms after the data arrives at Access Services database. The data is sent from the providers every two hours, and it can take up to four hours for the validation process to run its course. In addition, any errors detected by ATBOS during the validation process must be fixed back in the source system, and the files then re-exported and sent to Access Services. This does occur, but not with great frequency.

The IT organization is responsible for making sure that the infrastructure works properly and is of the quality and robustness needed for these and other functions. It also works with those who are developing applications, both externally – such as IT Curves where it helped to architect and implement the data design underlying the new “Where’s My Ride” smartphone app – as well as internally such as when helping implement the data and underpinnings for the Tableau reporting system.

Risk Management

Access is self-insured carrying the first \$100,000 (since 2015) and with umbrella coverage up to \$51,000,000. When Access developed this approach, they asked that the service providers remove insurance costs from their trip rate. Concurrent with this program the agency increased training and audit programs which has resulted in a lower accident rate. The audits and inspections carried out by Access staff (see above) have resulted in reduced costs. Also, to encourage the providers to maintain low accident

and incident rates, additional disincentives have been developed, and were recently included (for the first time) in the RFP issued for the West Central region.

Incidents and accidents are categorized as either minor or major. There are bi-weekly meetings between the Risk Management office and the operations team to review each accident and incident. Access tracks accidents and incidents by service provider contractor/region and utilizes this information during the proposal process. Access also engages a third-party adjuster for administering claims. This relieves the agency from adding additional staff to handle this process.

Eligibility Determinations Impact on Operations

The eligibility function at Access is contracted out to a vendor that specializes in in-person eligibility assessments. MTM, Inc. was recently selected for this function. The eligibility team at Access consists of five staff members, including the PA for Eligibility and the Eligibility Appeals Coordinator. The team is responsible for contract oversight, which includes file reviews, one-off audits if there are unusual trends in eligibility outcomes, and on-site observations of the eligibility process.

Twelve years ago Access established an unusual practice in the paratransit industry, with one staff person, the Eligibility Appeals Coordinator, monitoring trip patterns of conditionally eligible riders to determine if all their trips are eligible based on their eligibility conditions. The Access eligibility database has been set up to randomize trip selection of those who are conditionally eligible. While 300 to 400 reviews were initially conducted on a monthly basis, due to the increase in trip volumes, this has now been increased to 1,500 monthly reviews, which represents about 35% to 40% of trips taken by riders with restricted eligibility (3,700 restricted riders take at least one trip during a month.)

The Appeals Coordinator reviews trips taken by riders with restricted eligibility, notifies them if they should not have taken the trips, and provides alternative fixed-route options. They also inform riders that they may be suspended if they continue to take trips that are not eligible. Monitoring is therefore conducted after the fact, rather than at the time of the trip request. Of those trips reviewed, usually about 5% to 10% are being taken by riders that are not eligible. This represents a major improvement from earlier trends, when approximately 30% of the trips were ineligible. This significant reduction suggests that the process is effective as riders with conditional or restricted eligibility now know what trips are not eligible. That said, there are other ways to operationalize conditional eligibility that are even more effective and that would alleviate the need to perform these sample-based reviews.

The most common restrictions that the Appeals Coordinator evaluates are distance (if more than one-quarter mile to the bus stop), hills, and transfers. If the rider has any one of those conditions and the condition is present in the trip, the trip is eligible for paratransit.

The coordinator reviews trips with more simple eligibility restrictions first, such as a rider who is restricted to paratransit only on days of dialysis treatment, but is riding on other days.

Eighty-five percent of the Coordinator's time is spent on reviewing trip eligibility, but the coordinator also conducts some appeals. The primary objectives of the appeals role are to educate the riders while also generating cost savings to the agency. While Access does not track changes in ridership behavior, the fact that some riders no longer appeal turndowns of trip requests is considered to be a measure of the effectiveness of the program.

Staff confirmed that the free public transit fare program attracts people to apply for ADA paratransit eligibility who otherwise may not have applied or may not be eligible. Steps are being taken with initiation of the new contractor to enhance the accuracy of the eligibility process. There will be a more extensive application and the certifier will get more information up front, which staff believes will screen some people out. The new model should result in better documentation, and more of an emphasis on fixed-route usage.

As an example of the limitations of the current contract, applicants are occasionally not taken on a transit walk even when they have indicated that they use fixed-route service – they are simply granted eligibility. In December 2015, the eligibility team met with the contractor to discuss some of the issues they had identified. As a result, the contractor tightened up the process and the number of denials increased dramatically due to the increase in those who sought eligibility to obtain the free bus pass. The demand for initial evaluations has also declined.

Conditional/restricted eligibility is not enforced up front by contractors, even though they do get specific distance information from the eligibility process. Sometimes the eligibility determinations also provide explicit language on hill gradients, but this is not enforced. Since contractor staff indicate that they have not been instructed to enforce restrictions when trip requests come in, the role of the Appeals Coordinator is particularly important. It appears as though even for some specific trips that are determined restricted, conditions are not being applied. For example, even though some dialysis patients are eligible for paratransit service just three days per week, staff believes that they are travelling on other days when they could be riding fixed-route service.

According to Access staff, they have requested that the operators review subscription requests from restricted riders before granting them subscription service, but the operators do not want to take the time to do that review. Under the current process, a vendor staff person is assigned to set up standing orders (subscription service), either at the time of the initial call, or inform the rider that they need a week to review the request. However, the decision of whether to grant the standing order is based on time availability, and staff does not take the riders' eligibility restrictions into account.

Fare Media, Cash, Coupons, Debit/ Credit

Access accepts cash and non-cash fare media including credit/debit cards and coupons. About 50%-60% of fares are paid in cash. Coupon books are sold in books of 10 and can be purchased from Access by sending a check or using a credit or debit card to order over the phone. The credit/debit method of payment represents less than 20% of all of the fare payments. Certified customers can ride for free on the fixed-route bus system by showing their Access ID card.

Access riders are not currently able to use the TAP card payment that Metro bus and rail riders can use to pay for Access Paratransit trips. The cost of the in-vehicle equipment is the obstacle to extending TAP to Access Services. It would be quite expensive, per rider, to add this technology to the approximately 750 vehicles used by the service providers, and it would not solve the problem of fare payments for the many cases in which non-dedicated vehicles are used.

5 SERVICE AND COST PERFORMANCE

RIDERSHIP

As shown in Figure 5-1 total Access Paratransit ridership increased from 3.41 million in FY 2013 to 4.26 million FY 2016, a 25% increase over that time period with annual increases ranging from 6% to 9%. The most dramatic changes over this time period were in the two North County regions, with ridership in the Antelope Valley increasing a whopping 79% and the ridership in Santa Clarita declining by 11%.

Meanwhile in the four higher ridership regions of the LA Basin, Figure 5-1 shows the ridership change in the Eastern and West Central regions, increasing at 24% and 23% from FY13 to FY16, a steady increase that mirrored the total system. Over the same period, ridership in the Southern region increased to 27%, the most in the LA Basin, while ridership in the Northern region increased by a much more modest 16%.

The 25% overall increase between FY 2013 and FY 2016, averaging out at 7.6% annually, is quite important, as it is coming at a time when the service provider contractors are struggling to fill driver positions and the number of taxi drivers in the region has declined due to competition from transportation network companies such as Uber and Lyft.

Figure 5-1 | Total Ridership by Region (FY13 to FY16)

Region	FY13	FY14	%	FY15	%	FY16	%	FY13- FY16
Eastern	915,681	980,084	7%	1,042,759	6%	1,132,172	9%	24%
West Central	540,233	574,085	6%	628,605	9%	663,340	6%	23%
Southern	1,131,550	1,254,297	11%	1,360,595	8%	1,437,977	6%	27%
Northern	668,602	716,780	7%	756,719	6%	775,998	3%	16%
Antelope Valley	111,253	142,261	28%	168,251	18%	199,554	19%	79%
Santa Clarita	46,381	43,368	-6%	42,489	-2%	41,489	-2%	-11%
OMC Back Up	4,361	11,193	157%	6,960	-38%	5,440	-22%	25%
Access Total	3,418,061	3,722,068	9%	4,006,378	8%	4,255,970	6%	25%

Notes: Totals do not include certification trips, which are primarily served by SGT under a separate contract (78,092 total in FY16).

Figure 5-2 presents a closer look at FY 2016 ridership, breaking down ridership by customer, personal care attendants (PCAs), and companions/children for each region. Overall, customer trips represent 77% of total ridership, with PCA trips at 21% and companion trips at 2%. Apart from Santa Clarita, PCA and companion trips represent 21% to 26% of overall Access Paratransit ridership in each region, significantly higher than the 13% to 14% average from a recent survey of 29 larger systems conducted as part of the TCRP J-07 SG-14 project on ADA paratransit service models. It is surmised that the unusually high proportion of riders classified as PCAs may be due to (1) fare avoidance of persons who would otherwise be classified as companions or even Access customers; and (2) customers who identify as part of the booking process that a PCA will be coming along and then not bringing the PCA in order to reduce the likelihood of a shared ride trip (the latter explanation was provided by a contractor but is anecdotal). A reduction in PCA ridership could result in an increase in customer trips, increasing fare revenue and

available FTA funding, and/or increasing service productivity, which could allow Access to reduce the per trip reimbursement rate during the re-procurement process.

Figure 5-2 | Access Ridership by Customer Type by Region (FY16)

Region	ADA Customers	%	Personal Care Attendants	%	Companions/ Children	%	Total Pass. Trips
Eastern	838,879	74%	267,879	24%	25,414	2%	1,132,172
West Central	501,420	76%	148,081	22%	13,839	2%	633,340
Southern	1,130,122	79%	273,255	19%	34,600	2%	1,437,977
Northern	614,070	79%	147,199	19%	14,729	2%	755,998
Antelope Valley	146,406	73%	50,441	25%	2,707	1%	199,554
Santa Clarita	36,373	88%	4,653	11%	463	1%	41,489
Access Total	3,272,710	77%	891,508	21%	91,752	2%	4,255,970

Notes: Totals do not include certification trips. Access Total includes 5,440 passengers on backup trips for ADA customers.

Figure 5-3 shows ridership density, defined as total riders per square mile. Generally, the higher the ridership density, the more opportunities there are for trips sharing, and by extension, the higher the productivity, all else being equal. One of the reasons for the higher trip density in the West Central region is that it has the smallest service area of the LA Basin regions, and the great number of return trips to other regions. Because of this high trip density, one might expect CTI in the West Central region to have a higher productivity than other contractors; however, the large number and sporadic characteristics of return inter-region trips and the traffic congestion associated with this region will have an opposite (adverse) impact on productivity. Productivity is further discussed and compared with regional trip density later in this section.

Figure 5-3 | Ridership Density by Region (FY16)

Region	Service Area (Sq. Miles)	Total Ridership	Riders Per Square Mile
Eastern	394	1,132,172	2,874
West Central	119	633,340	5,322
Southern	378	1,437,977	3,804
Northern	183	755,998	4,131
Antelope Valley	165	199,554	1,209
Santa Clarita	86	41,489	482
Access Total	1,325	4,255,970	3,212

Notes: Totals do not include certification trips; Access Total includes 5,440 passengers on backup trips for ADA customers.

SERVICE SUPPLY

Figure 5-4 and Figure 5-5 show the supply of service in terms of total and revenue hours and miles. The difference being that total and revenue hours for dedicated service is that total hours reflect gate-to-gate hours while revenue hours reflects first pick-up to last drop off less a scheduled break. Total hours for taxi subcontractors is not reported but revenue hours are (and included in both columns) For taxis, revenue hours are equal to live hours (when there is a passenger in the taxi, so meter on to meter off). The difference between total miles is much the same.

Two of the more interesting statistics from Figure 5-4 are (1) there is a very narrow range of average revenue hours per trips (as a surrogate for trip duration) among the regions; all range from 0.6 hours to 0.8 hours; and (2) the comparatively low revenue hours to total hours from the West Central region. While the other three regions of the LA Basin range from 83% to 85%, with the overall average being 83%, the revenue to total hour ratio for the West Central region is 79%. This lower figure is easily explainable and can be traced to the deadheading from all of the inter-region return trips. Indeed this inefficiency is one of the shortcomings that will be looked at in terms of the development of alternative service models presented in Chapter 13 of this report.

Figure 5-4 | Total Hours and Revenue Vehicle Hours by Region (FY16)

Region	Total Hours	% of Access Total	Revenue Hours	% of Access Total	Revenue Hours/ Total Hours	Revenue Hours / Customer Trip
Eastern	690,239	25%	582,834	25%	84%	0.7
West Central	467,123	17%	367,741	16%	79%	0.7
Southern	892,671	32%	760,867	33%	85%	0.7
Northern	580,555	21%	482,460	21%	83%	0.8
Antelope Valley	108,966	4%	86,733	4%	80%	0.6
Santa Clarita	24,759	1%	22,709	1%	92%	0.6
Access Total	2,764,313	100%	2,303,344	100%	83%	0.7

Notes: Figures do not include backup trips.

In Figure 5-5, we see that revenue miles to total miles is fairly consistent in the LA Basin, ranging from 87% to 90%. When one looks at the revenue mile per trip figures (as a surrogate for trip length), we see a broader range, from 10.9 revenue miles per customer trip in the Southern region to 13.0 in the Eastern region. On one hand, the fact that the Eastern region is the largest region can explain the longer trip length. On the other hand, the Southern region, which is nearly as large as the Eastern region, has the shortest average trip length of the LA Basin regions. The comparatively smaller Northern region has an average trip length of 12.6 miles per trip, which is comparable to the Eastern region.

Figure 5-5 | Total Miles and Revenue Vehicle Miles by Region (FY16)

Region	Total Miles	% of Access Total	Revenue Miles	% of Access Total	Revenue Miles/ Total Miles	Revenue Miles / Customer Trip
Eastern	12,172,894	28%	10,921,617	28%	90%	13.0
West Central	6,653,348	15%	5,830,058	15%	88%	11.6
Southern	14,049,600	32%	12,279,659	32%	87%	10.9
Northern	8,879,663	20%	7,752,911	20%	87%	12.6
Antelope Valley	1,823,936	4%	1,627,246	4%	89%	11.1
Santa Clarita	352,490	1%	327,953	1%	93%	9.0
Access Total	43,931,931	100%	38,739,455	100%	88%	11.6

Notes: Figures do not include backup trips.

Figure 5-6 | Average Trip Length (Revenue Miles per Completed Trip; FY16)

Region	Overall	Dedicated Employee	Other Dedicated	Taxi Subcontractor
Eastern	11.9	13.1	13.6	11.0
West Central	11.6	11.5	16.6	11.0
Southern	10.9	11.8	N/A	9.1
Northern	12.6	11.2	22.7	21.2
Antelope Valley	11.1	Not Applicable		
Santa Clarita	9.0	Not Applicable		
Access Total	11.6	11.8	15.4	10.9

SERVICE MIX

A system's service mix is defined as the split, by ridership, between dedicated and non-dedicated service. It is a challenge to get the exact service mix for Access. While it is relatively easy to get the split between trips served by contractors via taxi subcontractors (in FY 2016: 61%/39%), the actual percentage of trips served by taxis operating in a non-dedicated fashion is somewhat lower than 39%. This is because all four LA Basin contractors cluster some trips assigned to taxi subcontractors as dedicated full-day runs and semi-dedicated multi-trip mini-runs of two to four hours. However, because these are not differentiated in the data, we will discuss the service mix for Access in terms of the trips served by contractors versus taxi subcontractors. This is shown below in Figure 5-7.

Figure 5-7 | Service Mix (FY16)

Region	Trips served on Dedicated Runs Operated by Contractor Employees		Trips served on Dedicated Runs Operated by Other Contractors		Trips Served by Taxi Subcontractors	
		%		%		%
Eastern	356,314	42%	34,530	4%	448,163	53%
West Central	263,195	52%	16,503	3%	222,701	44%
Southern	663,179	59%	0	0%	466,945	41%
Northern	535,403	87%	5,351	1%	73,318	12%
Access Total	1,818,091	59%	56,384	2%	1,211,127	39%

Notes: Data not available for the Antelope Valley and Santa Clarita regions.

Figure 5-7 also differentiates between the trips served on contractor runs versus trips that, through trip exchange, wind up on other contractors' runs; i.e., different from the contractor who booked the reservation. Note that 91% of these are in the Eastern and West Central region, which because of the combined reservations and scheduling units can easily use each other's runs to improve efficiency. This is the hallmark of centralized scheduling, which is included in some of the alternative service models analyzed in Chapter 13.

The 39% of trips served by taxi subcontractors is highly unusual among Access' peers, as noted in Chapter 6. There are only two peers, DART in Dallas and Valley Metro in Phoenix, that have larger splits. On the other hand, Access grew-up with taxi companies providing ADA paratransit service, in part attributable to the pioneering taxi certification program. Due to the continued significant use of taxis, Access has been able to keep its cost down compared to its peers. The increasing reliance on taxi subcontractors from FY

2013 to FY 2016 is shown in Figure 5-8 below. We also understand that, as of April 2017, MV has subcontracted to GPI and SGT, who have in turn assigned many of those trips to their taxi subcontractors. This has led to a service mix of taxi subcontractors that is now approximately 40% in the Northern region.

Figure 5-8 | Percentage of Trips Served by Taxi Subcontractors (FY13-FY16)

Region	FY 2013	FY 2014	FY 2015	FY 2016
Eastern	49%	46%	49%	53%
West Central	32%	30%	39%	44%
Southern	25%	23%	32%	41%
Northern	1%	3%	3%	12%*

*As of April 2017, taxi subcontractors served 44% of Northern region trips.

ON-TIME PERFORMANCE

Access' on-time performance (OTP) is shown in Figure 5-9. Note that the overall 90.8% OTP is nearly identical to Access' 91% standard. As discussed previously, the 91% standard by industry norms is reasonable given Access' 20-minute on-time pick-up window. Also note that Access's standard for OTP also includes an associated standard for significantly late trips: that no more than 0.1% of the trips are late by more than 45 minutes ("Late 4" trips).

As far as actual OTP performance by region, five of six contractors are within at least 1% of the OTP standard, while the OTP in Santa Clarita is exceptional. However, the contractors serving the Eastern, West Central, and Southern regions all violated the Late 4 standard, with SGT having over twice as many trips late by 45 minutes or more than the standard allows.

Figure 5-9 | On-Time Performance (FY16)

Region	On-Time Trips	Late Trips	"Late 4" Trips
Eastern	90.7%	9.3%	0.23%
West Central	90.1%	9.9%	0.15%
Southern	90.1%	9.9%	0.11%
Northern	91.8%	8.2%	0.05%
Antelope Valley	91.8%	8.2%	0.01%
Santa Clarita	96.2%	3.8%	0.03%
Access Total	90.8%	9.2%	0.13%

Note: "Late 4" Trips are pick-ups that occur 45 minutes or more outside of the stated 20-minute pick-up window. "Late Trips" includes all "Late 4" Trips, therefore total percentages in each row add up to greater than 100%.

SERVICE PRODUCTIVITY

Figure 5-10 shows service productivity based on trips per revenue vehicle hour (RVH). Here, trips are defined as ADA customer trips (and not including PCAs and companions) plus certification trips, while RVHs are defined as discussed above.

Figure 5-10 | Service Productivity by Service Type and Region (Completed Customer Trips per Revenue Hour; FY16)

Region	Overall Trips per Revenue Hour	Dedicated Service Operated by Contractor Employee	Dedicated Service Operated by Other Contractors	Service Operated by Taxi Subcontractors
Eastern	1.57	1.21	1.06	2.15
West Central	1.37	1.12	.87	1.96
Southern	1.49	1.19	N/A	2.27
Northern	1.27	1.27	0.73	1.39
Antelope Valley	1.69	Not Applicable		
Santa Clarita	1.60	Not Applicable		
Access Total	1.45	1.21	.96	2.09

Overall, the 1.45 overall trips per hour figure is somewhat inflated because of the definition of taxi RVHs. A more telling figure is the 1.21 productivity figure, which does not include trips operated by taxi subcontractors.

As will be seen from the Peer Review in Chapter 6, the overall 1.45 trips per hour is roughly equivalent to the peer average. However, the 1.21 productivity for dedicated service is comparatively low. There are myriad factors that affect productivity, most notably average trip length. It is no surprise then that the two systems with two of the longest average trip lengths (in Los Angeles and Washington, DC) have two of the lowest productivities for dedicated service.

At the same time, Figure 5-10 also shows productivity by region, and there does not appear to be a correlation between region size, average trip length, and productivity. For example, one might expect that SGT in the biggest region and with one of the longest average trip lengths would have one of the lowest productivities but it has the second highest productivity for dedicated trips. This might be attributable to the high number of trips – the higher the number of trips, the higher the number of compatible trips – or might be a testimony to 5M and/or the trip-exchange strategy.

In the end, under the current system, productivity is not an overriding metric of concern, as Access pays its contractors based on each completed trip (except for certification trips for which SGT negotiated a per RVH payment rate). Therefore, increases in productivity mid-contract help the contractors and not Access. Productivity only comes into play at re-procurement as a negotiating point. However, productivity could become extremely important if a change to another service model in the future suggests an accompanying change to a per RVH payment scheme.

DENIALS

Figure 5-11 below shows the percentage of denials for FY 2016. Consistent with FTA policy, denials are defined as (1) trip requests that cannot be accommodated (at all) and (2) trip requests that can be accommodated but beyond the useful hour definition, regardless of whether the trip with the offered new pick-up time is accepted or not.

Figure 5-11 | Denials (Negotiation Outside of 1 Hour; FY16)

Region	% of Trips Denied	Months Above 1% Denials
Eastern	0.28%	1
West Central	0.21%	0
Southern	0.17%	1
Northern	0.28%	1
Antelope Valley	0.21%	0
Santa Clarita	0.07%	0
Access Total	0.20%	0

Based on interviews with Access staff and their contractors, there are never trip requests that fall into the first category, as a result of the high usage of taxis. There are some denials that are covered in the second definition, and these are the ones that are reflected in Figure 5-11. Based on observations performed by Operations staff, these denials mostly occur because of reservation errors, where the reservationist mishears or mistypes the customer's requested pick-up time and offers a time outside the window. As a percentage of customer trips, these percentages range from .07% to 0.28%, with a systemwide average of 0.20%.

CANCELLATIONS, NO-SHOW, AND MISSED TRIPS

The percentage of booked trip requests not completed because of cancellations, no-shows, or missed trips in FY 2016 is presented in Figure 5-12.

Figure 5-12 | Scheduled Trips Not Completed (FY16)

Region	Cancelled	No Show	Missed Trips
Eastern	16.96%	3.07%	0.69%
West Central	15.65%	4.34%	0.78%
Southern	10.46%	4.38%	0.90%
Northern	17.80%	3.14%	0.51%
Antelope Valley	20.53%	3.30%	0.66%
Santa Clarita	23.63%	2.79%	0.75%
Access Total	15.52%	3.81%	0.74%

The industry norm for cancellations is to not be above 15% and, as shown, the cancellation rate for all regions but one (Southern) is higher, and especially high for Santa Clarita and the Antelope Valley. A possible reason for the high cancellation rate is that the cancellations are being made by subscription trip customers who are not making the trip or who want a better trip time. As mentioned above, we would encourage Access staff to perform an analysis of trip cancellations to see if this reason is the case, and to possibly revoke subscription trips that are consistently being cancelled.

The industry norm for no shows is to be under 5%, and this clearly is being accomplished. In addition, we would expect this number to go down with the release of the Where's My Ride app, and further be reduced if the IVR system is eventually used to make imminent arrival calls or texts triggered by the actual location of vehicles.

The industry norm for missed trips is to be no higher than 1%, with a targeted goal of being below 0.5%. As shown above in Figure 5-12, the missed trip percentages for each of the regions fall within this range.

EXCESSIVELY LONG TRIPS

Excessively long trips are defined by the FTA as being excessively longer than the comparable time it takes for a customer to travel to the bus stop or rail station, wait for the bus or train, transfer if needed, and travel from the final bus stop or rail station to the final destination. FTA, in its triennial reviews, has accepted standards of no more than 5% for excessively long trips; that is, actual incidence of excessively long trips that exceeds 5% may prompt further scrutiny to see if a pattern exists. As shown in Figure 5-13, the percentages of excessively long trips exceed the 5% threshold overall but mainly in the shorter trips.

Figure 5-13 | Comparability to Fixed-Route Travel Times (FY16)

Region	Comparable Trips*	Longer than Comparable Trips		
		21-40 min	41-60 min	>60 min
Eastern	98.59%	1.03%	0.24%	0.16%
West Central	95.20%	3.09%	0.99%	0.73%
Southern	94.04%	4.02%	1.32%	0.61%
Northern	95.02%	3.78%	0.91%	0.29%
Antelope Valley	96.98%	2.46%	0.45%	0.11%
Santa Clarita	96.80%	2.30%	0.67%	0.22%

*Comparable trips are defined as trips that are within 20 minutes of a comparable trip using public fixed-route transit services.

TELEPHONE ACCESS

Figure 5-14 below shows the actual telephone access performance for both reservations calls and for ETA/cancellation calls, in terms of (1) average hold time, noting that Access' standard for reservation calls is to have average hold times under two minutes (over the course of a month); and (2) the percentage of calls where the hold times was over five minutes, noting the Access standard of no more the 5%. Both of these standards are consistent with the standards adopted by peer systems. In the recently awarded West Central contract, Access extended these call hold time standards to ETA and cancellation calls. Access plans to add these standards for ETA/cancellation calls to the other contracts as they come up for bid or possibly through amendments.

If a particular contractor does not meet either of these standards over a quarter, Access staff will undertake a deeper analysis to determine the reason(s). In the course of this analysis, staff will look at day-by-day and hour-by-hour average hold times to identify whether or not there is a capacity constraint (i.e., not enough staff to achieve the standards).

Figure 5-14 | Reservations and ETA/Cancellation Call Hold Times (FY 16)

Region	Reservation Calls		ETA/Cancellation Calls	
	Average Hold Time (Seconds)	% Calls on Hold Over 5 Minutes	Average Hold Time (Seconds)	% Calls on Hold Over 5 Minutes
Eastern	70	5.0%	169	18.5%
West Central	71	5.1%	141	14.6%
Southern	104	4.4%	280	32.9%
Northern	115	4.6%	56	2.9%
Antelope Valley	95	2.0%	n/a	n/a
Santa Clarita	41	1.4%	n/a	n/a
Access Total	89	4.6%	219	24.9%

Notes: Antelope Valley and Santa Clarita do not separately report ETA/Cancellation Call hold times.

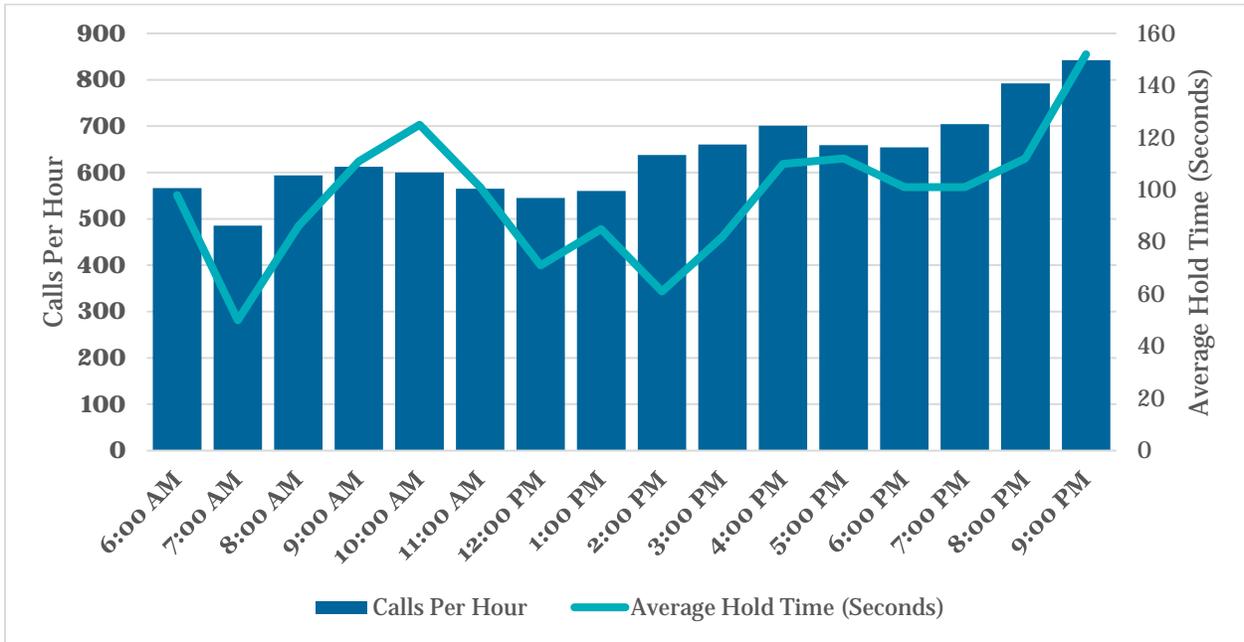
Reservations – As shown in Figure 5-14, all of the service provider contractors were under the two-minute standard with average hold times ranging from 41 seconds in Santa Clarita to 115 seconds (five seconds shy of the standard) in the Northern region, with a systemwide average of 89 seconds. In terms of the 5% standard, there were two service provider contractors who came in right at or slightly above the 5% threshold (SGT in the Eastern region, and CTI in the West Central region, noting that their reservations functions for these two contractors is performed by the same group of reservation agents). The overall system percentage at 4.6% is under the 5% threshold.

ETA/Cancellation Calls – Figure 5-14 also shows that three of the LA Basin contractors (SGT, CTI, and Global) are not only exceeding the two-minute standard, but are far above the newly extended 5% standard for ETA/cancellation calls. This points to a clear customer service issue, which may stem from an undersupply of agents assigned to these groups and/or perhaps an insufficient number of telephone lines. In contrast, MV in the Northern region has high marks for its telephone access performance.

The fact that SGT and CTI are coming in at or slightly above the 5% threshold for reservations calls and that SGT, CTI, and Global are way above the 5% threshold for ETA/cancellation calls should trigger a deeper analysis by Access staff, noting that SGT/CTI's figures for FY 2016 were much worse in the first half of the fiscal year and much better during the second half.

For example, in Figure 5-15 below, we see the number of calls per hour systemwide and the average hold time peaking in the 10:00 a.m. hour and the 8:00 p.m. and 9:00 p.m. periods. The 10:00 a.m. hold time peak does not seem to correlate with the number of calls, so we can only surmise that this is when reservations agents begin to take their break. With many systems, you also see a mini-peak in hold time and a mini-peak of calls at the noon hour when many customers call to reserve a trip. However, these are systems with reservations hours that close at 5:00 p.m. With Access' reservation hours open in the evening, there is not such a rush at noon to place a reservations call. In comparison, one sees from Figure 5-15 that the call volume and average hold time both peak at the 8:00 p.m. and 9:00 p.m. hour, right before the 10:00 p.m. cut-off. Thus, in the case of the three individual contractors, with the exception of MV, the analysis should focus on the mid-morning break schedule and the staffing levels at the end of the day to determine whether there is a sufficient level of staff to meet Access' standards.

Figure 5-15 | Systemwide Reservations Calls and Average Hold Time by Hour



COMPLAINT FREQUENCY RATIO

Access' complaint frequency ratio (CFR) by region for 2016 is presented in Figure 5-16. CFR's in paratransit are typically presented based on 10,000 trips or 1,000 trips. Up until recently, Access has not had a CFR goal or target; however, they recently put in a CFR standard of 4.0 complaints per 1,000 trips into the new West Central contract, with penalties triggered when complaints go higher than 4.5 per 1,000 trips.

Access Paratransit contractors have an overall CFR of 3.41, well under this threshold, but noting that there is significant variation among the contractors. Santa Clarita and MV in the Northern region both have above average CFRs at 0.49 and 1.99 complaints per 1,000 trips respectively. The CFR in the Southern region at 4.82 is above the new 4.0 standard.

Figure 5-16 | Complaints per Completed Trip (FY16)

Region	Completed Trips	Complaints	Complaints per 1,000 Trips
Eastern	916,718	3,063	3.34
West Central	502,399	1,232	2.45
Southern	1,130,124	5,444	4.82
Northern	614,072	1,224	1.99
Antelope Valley	146,486	425	2.90
Santa Clarita	36,373	18	0.49
Access Total	3,346,172	11,406	3.41

Figure 5-17 breaks down complaints by type for each contractor. Complaints related to procedure are the most common among each of the contractors and Access overall, representing just under half of total complaints. Complaints related to travel time, including late trips and poor routing, are the second most

common complaint for nearly all contractors. There are very few comments in regards to potential ADA violations, representing less than 1% of complaints overall.

Figure 5-17 | Complaints by Type (FY16)

Region	Total Complaints	Procedure	Travel Time	Conduct	Booking	Service Quality	ADA
Eastern	3,063	45%	21%	21%	10%	3%	0%
West Central	1,232	49%	22%	15%	10%	3%	0%
Southern	5,444	45%	26%	12%	13%	3%	1%
Northern	1,224	36%	29%	18%	11%	5%	1%
Antelope Valley	425	33%	28%	24%	12%	4%	1%
Santa Clarita	18	39%	11%	6%	28%	17%	0%
Access Total	11,406	44%	25%	16%	11%	3%	1%

Note: "Travel Time" includes complaints related to Travel Time, Late, Late 4, and Routing. "Service Quality" includes complaints related to General Service, Securement, Service Animals, and Vehicles.

PREVENTABLE COLLISIONS

Access contracts include a standard of 0.5 preventable collisions per 100,000 total miles, exceeding industry standard best practice of one preventable collision per 100,000 total miles. In FY 2016, Access exceeded its collision standard overall, though only the Eastern and Southern region contractors have greater than 0.5 collisions (Figure 5-18). That being said, none of the Access contractors exceeded greater than on preventable collisions per 100,000 total miles in FY 2016. In fact, contractors only exceeded the industry standard three times in the collective 72 months they provided service.

Figure 5-18 | Preventable Collisions per 100,000 Total Miles (FY16)

Region	Preventable Collisions per 100,000 Total Miles	Months above 0.5 Collisions (FY16)	Months above 1.0 Collisions (FY16)
Eastern	0.70	10	1
West Central	0.37	4	0
Southern	0.60	8	0
Northern	0.44	4	0
Antelope Valley	0.27	4	1
Santa Clarita	0.29	1	1
Access Total	0.55	8	0

6 PEER REVIEW

The purpose of conducting a peer analysis is to understand how Access’s service and cost performance compares with its peers, and to identify whether there are any lessons learned from better performing peer systems relative to their service model, policies, or practices that could potentially be applied to Access’ paratransit service.

Our analysis of this information will focus on comparisons of service and cost performance and to what extent certain trends or themes can be traced back to specific service models or policies and practices. We conclude this peer analysis with lessons learned and potential applicability to Access.

PEER SERVICE STATISTICS

Figure 6-1 lists the peers considered in this analysis.

Figure 6-1 | Evaluated Peer Paratransit Systems

City	Transit Agency	ADA Paratransit Service
Atlanta	MARTA	Mobility
Boston	MBTA	The RIDE
Chicago	Pace	Paratransit
Dallas	DART	Mobility Management
Houston	METRO	METROLift
New Jersey	NJ Transit	Access Link
New York City	NYCT	Access-A-Ride
Oakland/East Bay	BART/AC Transit	East Bay Paratransit Consortium
Pittsburgh	PAT	ACCESS
Portland	Tri-Met	LIFT
Seattle/King County	King County Metro	Access
Washington, DC	WMATA	Metro Access

Finding true peers for Access is always a challenge because of the system’s size and uniqueness.

- After Access-a-Ride in New York City, Access is the second largest ADA paratransit system based on total ADA ridership (and third largest if Pace’s ADA ridership in its several of its suburban systems is considered in addition to its ridership in the City of Chicago.)
- Access’ service area is the fifth largest among ADA systems, again if just the City of Chicago is considered.

Ultimately, we chose a dozen peers systems based on ridership and demographics, but also included a smaller system (in Pittsburgh) with a very similar service model, as well as some larger systems with

different service models. In the case of the latter, the idea of their inclusion was to see if they have some lessons learned that are potentially applicable to Access and would help round out some of the service model alternatives considered as one of the key assessment areas. The information in this section was gathered from the peers as part of a TCRP research effort conducted by Nelson\Nygaard concurrent to this project, and appears in the Draft Final Report.⁷

Figure 6-2 | Peer Annual Ridership (CY or FY 2016)

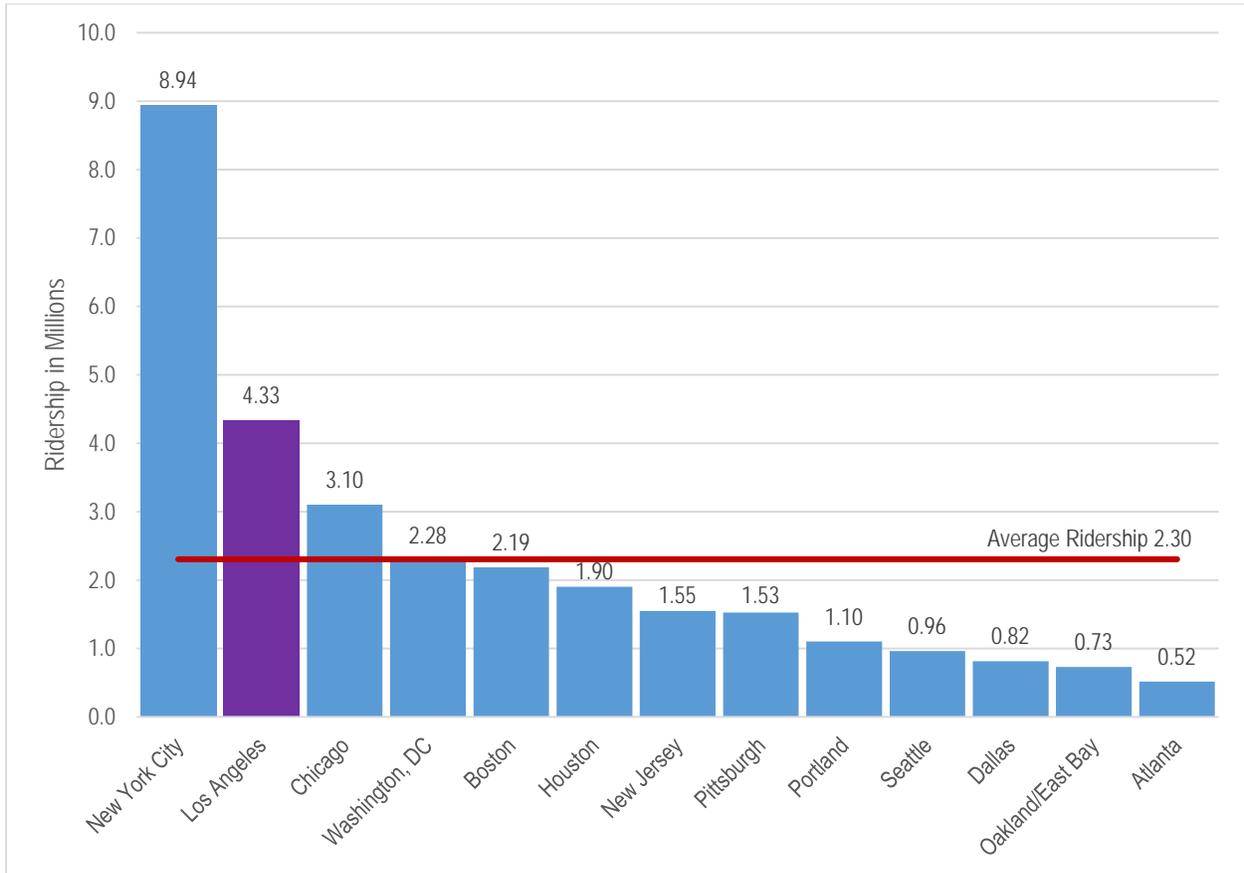


Figure 6-2 shows annual total ADA ridership (including PCAs and companions) for the peer group. Ridership statistics are reported either for CY or FY 2016. As shown, total ADA ridership in the peer group varies from 517,895 to 8.94 million. As evidenced from the graph above, Access LA ranks second in total annual ridership only behind New York City, and is well above the industry average of 2.30 million.

⁷ TCRP Project J-07, Topic SG-14, ADA Paratransit Service Models, Draft Final Report, May 2017.

Figure 6-3 | Peer Service Area Population

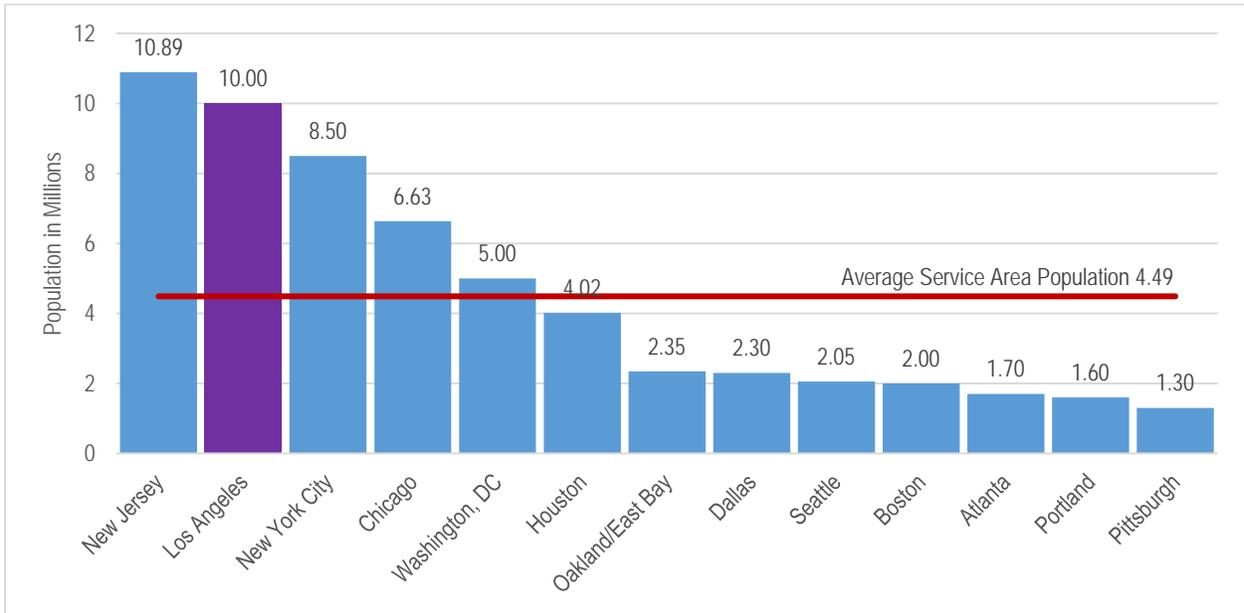
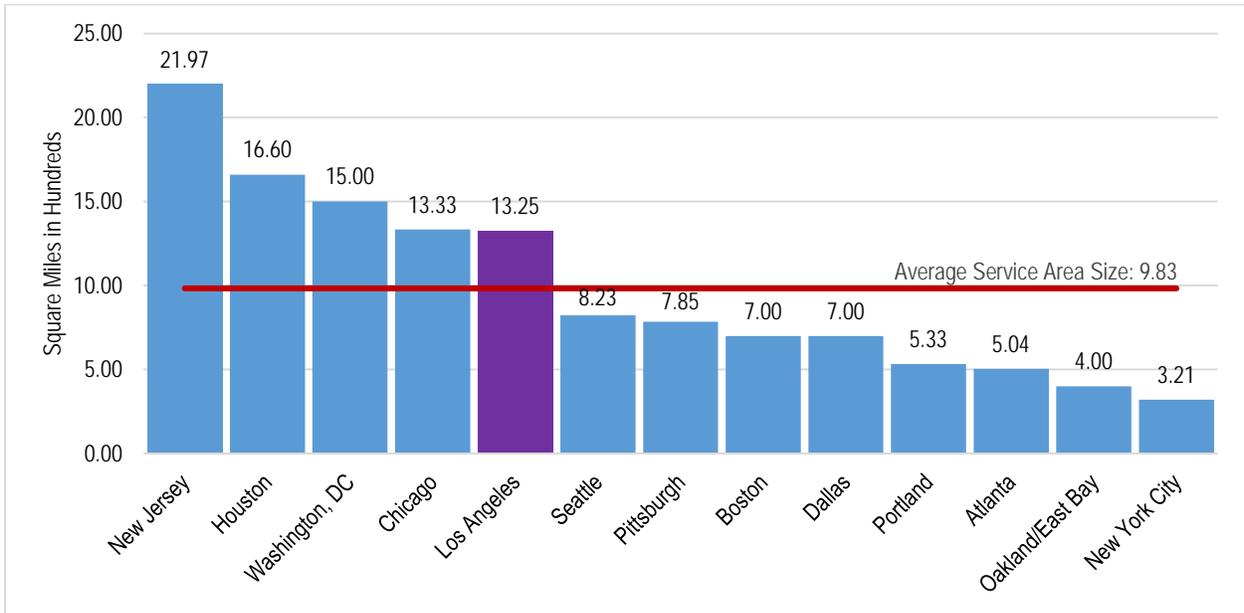


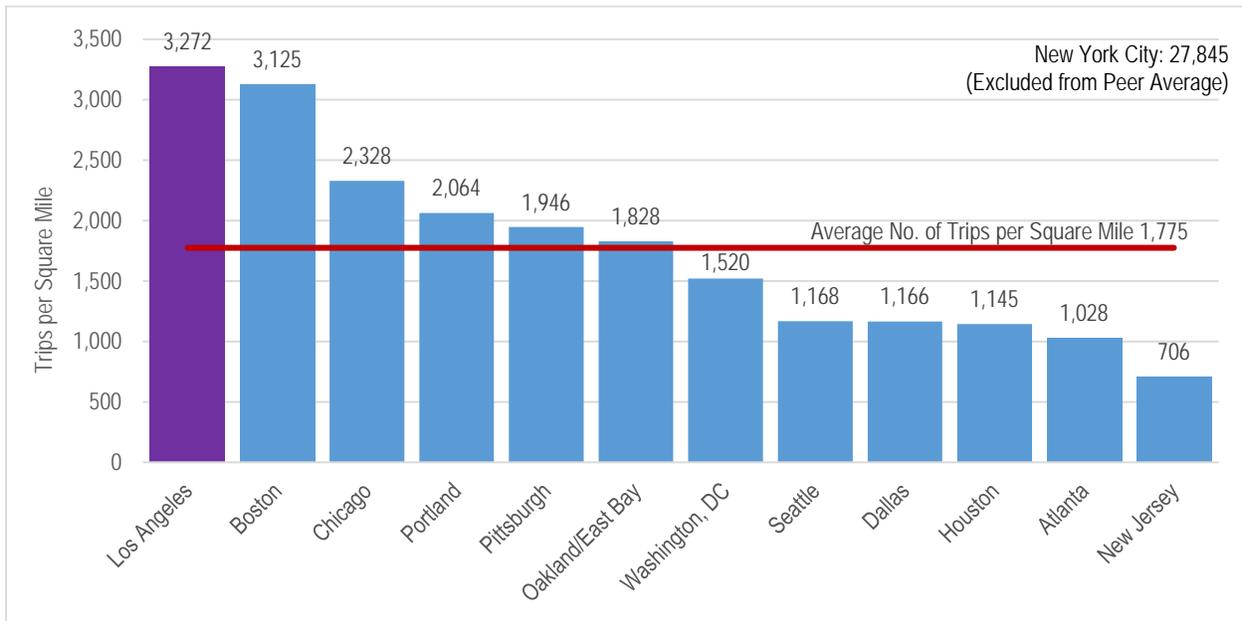
Figure 6-3 shows the total population in each peer’s service area, as reported in the survey. Access’ service area population (10 million) is the second largest among the peer group and over twice the total population of the peer system average (4.5 million).

Figure 6-4 | Peer Service Area Size (Square Miles)



As shown above in Figure 6-4, among the peer group, Access ranks 5th in total service area square miles. New Jersey ranks first because its ADA paratransit service covers much of the state.

Figure 6-5 | Peer Trip Density (Trips per Service Area Square Mile)



With ridership and service area data, we thought that trip density (calculated as the annual total number of ADA paratransit trips per square mile of service area) might be a worthy comparison. This is shown above in Figure 6-5. Note that New York City is excluded from both Figure 6-5 and the peer average, as its trip density is over 15 times higher than the average of all other evaluated peers. As shown, Access's trip density second highest among the group, nearly double the peer average (excluding New York) of 1,775.

Figure 6-6 and Figure 6-7 each present a contrast of different service models as well as other reasons for including the peers in the analysis. Figure 6-6 shows how each peer performs and/or contracts each of the five primary paratransit service functions. These functions include reservations (when a customer books a trip), scheduling (when that trip is scheduled on a run), dispatching (which coordinates service and makes same-day adjustments), ETAs, and vehicle operations.

As shown in Figure 6-6, we have included (1) three peers where, like Access, all call and control center (CCC) functions are decentralized with the service provider contractors; (2) five peers where all or most of the CCC functions are centralized with the agency, the broker, or a CCC contractor; and (3) four peers where various CCC functions are split between the agency/call center contractor and the service provider performing, including one where reservations is split from the other CCC functions (Atlanta), and where centralized scheduling is performed by a different entity in a multiple carrier system (Chicago).

Figure 6-7 presents some other reasons for peer inclusion, noting that several peers have recently transitioned to – or are currently transitioning to -- a different service model.

Figure 6-6 | Service Model Characteristics

Location	Service Provider Contractors					# of Zones	NDSP	Alt
	Reserv	Sched	Disp	ETA	# Ops			
Atlanta	Agency	DSP			1	0	0%	
Boston	DSPs				3	3	1%	Yes
Chicago	DSPs	CCCC	DSPs	CCCC	4	3	0%	Yes
Dallas	DSP				1	0	70%	Yes
Houston	Agency				2	0	11%	Yes
LA	DSPs				6	6	39%	
NJ	Agency	Agency/DSP	DSPs	Agency	6	6	0%	
NYC	CCCC	Agency	DSPs	CCCC	17	9	30%	Yes
Oakland	Broker				3	0	0%	Yes
Pittsburgh	DSPs				6	6	0%	
Portland (1)	CCCC				1	3	0%	
Seattle	CCCC				2	0	9%	
Wash DC	CCCC				3	2	6%	Yes (2)

CCCC = Call and Control Center Contractor

DSP: Dedicated service provider

NDSP = Using non-dedicated service providers to serve ADA paratransit trips

Alt = An (non-ADA) alternative service (e.g., a taxi-based or TNC-based subsidy program) for ADA-eligible customers

(1) TriMet's call and control center (CCC) contractor and is the same contractor serving all 3 zones

(2) WMATA is planning to implement an alternative service in 2017

Figure 6-7 | Other Reason for Inclusion in Peer Group

City	Of Interest
Atlanta	Recently outsourced all functions except reservations function which continues to be performed in-house
Boston	Transitioning from an Access-like model to a CCC contractor model; new pilot TNC partnership program
Chicago	Recently added a CCC contractor for scheduling and ETA functions only; trips booked by one service provider might be served by another
Dallas	Changed from in-house CCC functions to one turnkey contractor with 70% trips served by a taxi subcontractor
Houston	In-house CCC functions; uses two unzoned service provider contractors
New Jersey	In-house call center; final scheduling is decentralized with service providers
New York City	Unique way of handling trips assigned to taxis that encourages cost savings
Oakland	One of the few brokerage models remaining
Pittsburgh	Very similar structure to Access Services, but managed by an administrative broker
Portland	CCC contractor under a second contract is the service provider for all three zones
Seattle	Currently migrating from a CCC contractor model to a single turnkey contractor (with a local subcontractor)
Wash DC	CCC contractor model with two (of the three) service providers sharing same area; third-party QA/QC contractor

PEER SERVICE PERFORMANCE STANDARDS

Figure 6-8 summarizes service performance standards for each peer agency.

Figure 6-8 | Peer Service Standards Comparison

Agency	OTP	On-Time Window	Missed Trip Rate	Long Trips	Trip Prod.	Complaint Frequency Ratio (per 1000 trips)	Average Call Hold Time
Los Angeles	91%	0 / +20	-	-	-	-	<2:00
Atlanta	90%	-	0	-	-	-	-
Boston	90%	-	0.5%	<2.0% 60 min/2x Intra-zone 120 min/2x inter-zone	-	2.0	<1:30 90% <5:00
Chicago	95%	0 / +20	<1%	-	1.7	0	<2:30
Dallas	95%	0 / +20	1%	34 min	N/A	3	95% <3:00 99% <5:00
Houston	90%	-	-	-	-	-	<3:00
New Jersey	92% - 97.75%	-20 / +20	0%	N/A	1.3113 – 1.7969 ⁸	1	2:00
NYC	-	0 / +30	-	-	-	-	-
Oakland	-	0 / +30	-	-	-	-	<2:00
Pittsburgh	94%	0 / +20	<1%	<5%	2.19	0.75	1:00
Portland	94.50%	-	N/A	-	2	-	-
Seattle	90%	-15 / +15	-	N/A	1.72	-	-
Wash DC	92%	-15 / +15	0.75%	-	1.10	5	-

On-Time Performance

OTP standards are at 90% or above. This is consistent with the industry norms where a 95% OTP is achievable for systems with a 30-minute pick-up window, and where a 90% OTP is achievable for systems with a 15-minute pick-up window. Access's 91% OTP standard, in view of its 20-minute pick-up window is appropriate. It is important to note, however, that while some systems also define a trip as late in terms of its drop-off time, when trips are Also, the MBTA, which like Access has paid its service providers by the trip, penalizes service providers the equivalent of the per trip rate for late trips (defined as *completed* trips picked up late), after the first 10% late trips. The MBTA found that this penalty counter-balances the natural tendency of the contractors to jam the dedicated vehicles with trips (in order to maximize profit).

None of the peers had a formal no-show standard, but many of the peers in follow-up conversations acknowledged that they have tried to keep no-shows under 5%, and that they see a dip in service

⁸ Standards are region-based ranges and are updated monthly. For the last month of FY 2016: Region 2 range was 1.6878 – 1.7969; Region 3 range was 1.3113 – 1.3529; Region 4 range was 1.3459 – 1.3924; Region 5 range was 1.6296 – 1.7011; Region 6 range was 1.49161 – 1.5621.

productivity when the no-show rate is higher than 5%. The goal of reducing no-shows (and ETA calls) is one reason why many of the systems have invested in IVR systems (for night before confirmation calls and imminent arrival calls) and apps such as MOBI (which works with Trapeze) and the Where's My Ride app that Access is developing.

Missed Trip Rate

Most of the peers did not have a formal missed trip standard. The two that reported a formal missed trip standard were Boston (0.5%) and Dallas (1.0%). Along with the late trip penalty mentioned above and for the same reasons, the MBTA charges its service provider contractors the equivalent of twice the per trip rate for missed trips. Consistent with FTA policy, missed trips are defined in three ways: (1) the vehicle never shows up; (2) the vehicle arrives after the pick-up window and the customer does not show up or cancels-at-door; and (3) the vehicle arrives within the pick-up window, but departs before the agency - established five-minute driver wait time.

Excessively Long Trips

While only a few mentioned a definitive standard, virtually all of the systems -- within their paratransit system as a scheduling parameter -- have a specific maximum travel time or a distance-based or zone-based table of not to exceed travel times. See for example Boston's parameters in Figure 6-8. In addition to these scheduling parameters, FTA has reprimanded transit agencies who do not have a process for comparing paratransit travel times with comparable times on fixed-route transit (including walk times, wait times, and if appropriate transfer wait times).

Trip Productivity

The peers that did report a productivity standard identified standards that mostly ranged from 1.1 to 2.0 total passenger trips per revenue vehicle hour, noting that the productivity standard in Washington DC is 1.1. Productivity of course is impacted by so many local factors, chief among them are trip characteristics (and whether the service is ADA only or also includes seniors and/or human service agency trips, both of which tend to drive productivity up), the size of the service (or trip length as a surrogate), traffic congestion (average speed), the service mix (the split between dedicated and non-dedicated service), and how well the scheduling parameters are tuned to the locale. Many paratransit practitioners will argue that the productivity of taxis used in non-dedicated mode is somewhat meaningless because the revenue hours reported is equivalent only to live passenger time (as calculated from the meter).

Complaint Frequency Ratio

Nine peers reported complaint frequency ratios ranging from 0.65 (Pittsburgh) to 4.9 (Oakland) complaints per 1000 trips.

Average Call Hold Time

Peers reported average hold time standards (for both reservation and ETA calls) as a not-to exceed time ranging between 90 seconds and 180 seconds. Two peers (Boston and Dallas) have an additional standard: that 90% and 99% of the hold times, respectively, for all calls be under five minutes. For Boston, if this percentage creeps above 90%, it is a trigger for analyzing whether or not there are any telephone access capacity constraints.

None of the peer agencies reported changing service policies due to changing their service model.

SERVICE MODELS

The peers' service models are summarized back in Figure 6-6.

- Like Access, the transit agencies in Boston, Dallas, and Pittsburgh vest all four primary call and control center (CCC) functions with the service provider contractors, noting that Boston is transitioning to a CCC contractor model, and Dallas' one contractor, like Access' contractors, uses a taxi subcontractor to serve a substantial number (70%) of the trips in Dallas.
- All four primary CCC functions are centralized in Houston (with the transit agency), in Oakland/East Bay (with the broker) and in Portland, Seattle, and Washington, DC (with CCC contractor).
- The remaining peers have a split of call center responsibilities. In Atlanta, the transit agency recently privatized an all in-house system but retained the reservations function. In Chicago, Pace retained a CCC contractor to perform scheduling and SDI functions, noting that one of the three service providers might intake a trip request and that trip might be scheduled to another provider. In New Jersey, NJ Transit employees perform reservations and SDI functions and are responsible for the run structures, scheduling subscription trips to the master templates, and creating the daily schedules, while the six service providers perform the final daily scheduling and dispatching. And in New York City, the CCC contractor is responsible for the reservations, SDI functions, and scheduling, noting that unscheduled trips are sent to the two NDSP brokers for assignment, while dispatching is vested with the service provider contractors.
- Nine of the 12 peers use more than one service provider contractors, ranging from two to six, with the exception of New York City, which has 17 service providers. As in Los Angeles, NJ Transit and ACCESS in Pittsburgh utilize six contractors. Also, all but one of the three systems that use multiple carriers do not have zones; these three are the systems in Houston, Oakland/East Bay, and Seattle.
- The use of non-dedicated service providers varies widely. Five of the 12 peers utilize dedicated service contractors only. Among the other seven, use varies from 1% to 70% in Dallas, noting that Access Services overall is at 39%, but that some of its carriers use taxi subcontractors to serve over half of their trips.
- Half of the 12 peers also have an (non-ADA) alternative service that is available to ADA-paratransit eligible. These transit agencies are in Boston, Chicago, Dallas, Houston, Oakland and Seattle.

ACTUAL SERVICE PERFORMANCE

Figure 6-9 presents actual service performance using the same metrics as identified in Figure 6-8.

Figure 6-9 | Actual Service Performance Statistics

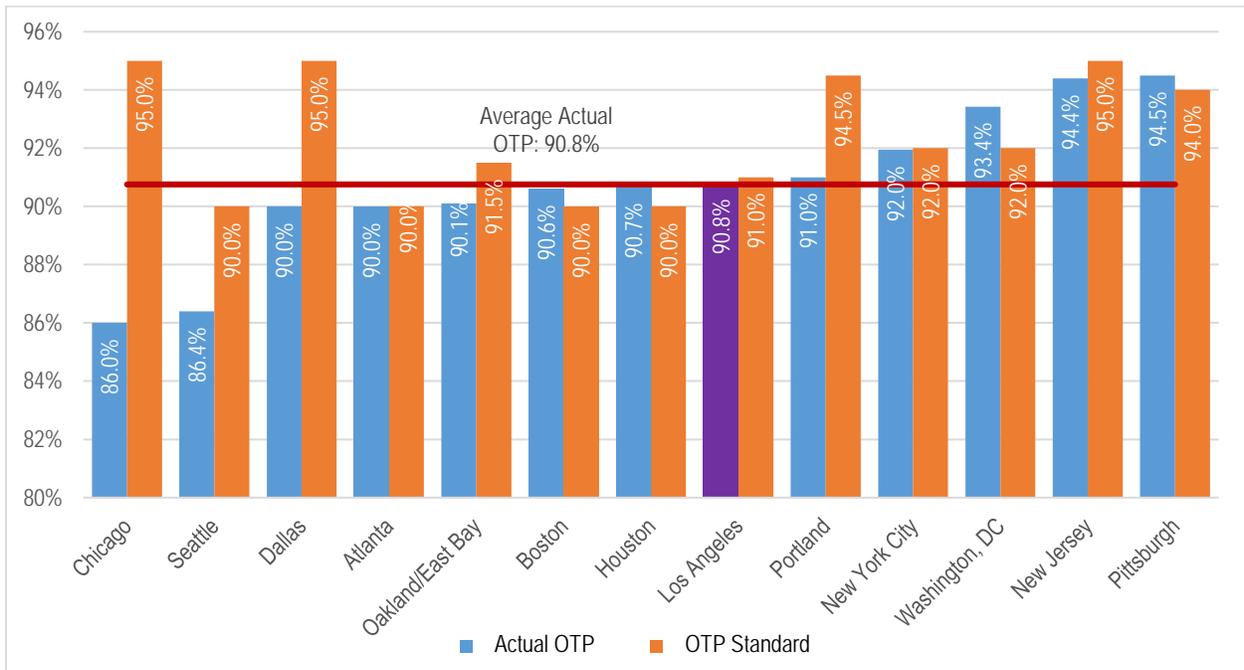
Agency	OTP	No-Show Rate	Missed Trip Rate	Long Trips	Trip Prod.	Complaint Frequency Ratio (per 1000 trips)	Call Hold Time
Los Angeles	90.8%	3.81%	0.74%	1.32%	1.45	3.4	89 seconds
Atlanta	90%	-	-	-	1.06	-	-
Boston	92% within 15 min 98% within 30 min	6.09%	0.17%	2.5% intra-zone 0.4% inter-zone	1.4	1.694	Res: 1:54-2:08 ETA: 0:48-2:42
Chicago	86%	4%	-	-	1.44	<1%	59 sec.
Dallas	90%	2.4%	0.2%	-	1.36	2.7	1:10.
Houston	90.7%	-	1.1%	-	-	-	2:30
New Jersey	94.4%	2%	2%	5.4%	1.58	0.65	Res: 8:05 ETA: 1:54
NYC	-	-	-	-	-	-	0:36
Oakland	90.1%	3.4%	0.34%	0.16%	1.48	4.9	1:18
Pittsburgh	94.5%	-	-	-	2.38	0.65	-
Portland	91%	-	-	-	1.79	-	1:12
Seattle	86.4%	3.9%	0.1%	N/A	1.58	3.4	1:01
Wash DC	93.4%	-	0.38%	-	1.13	4	<2:00

On-Time Performance

Figure 6-10 shows agency standard and actual on-time performance across all peers, noting that the average was 90.8%. OTP standards vary based on the on-time window, with agencies that have a longer on-time window typically having a higher OTP standard. Access' actual OTP was exactly the same as the peer average, just below the agency OTP standard of 91.0%.

The three peers that ranked highest on actual on-time performance were Pittsburgh (94.5%) and NJ Transit (94.4%). Access ranked fifth with an actual on-time performance of 90.80%, noting that OTP in Washington, DC has varied significantly over the past year. The peer with the largest discrepancy between actual on-time performance and service standard was Pace in Chicago, with an actual on-time performance of 86% and a service standard of 95%.

Figure 6-10 | Peer On-Time Performance



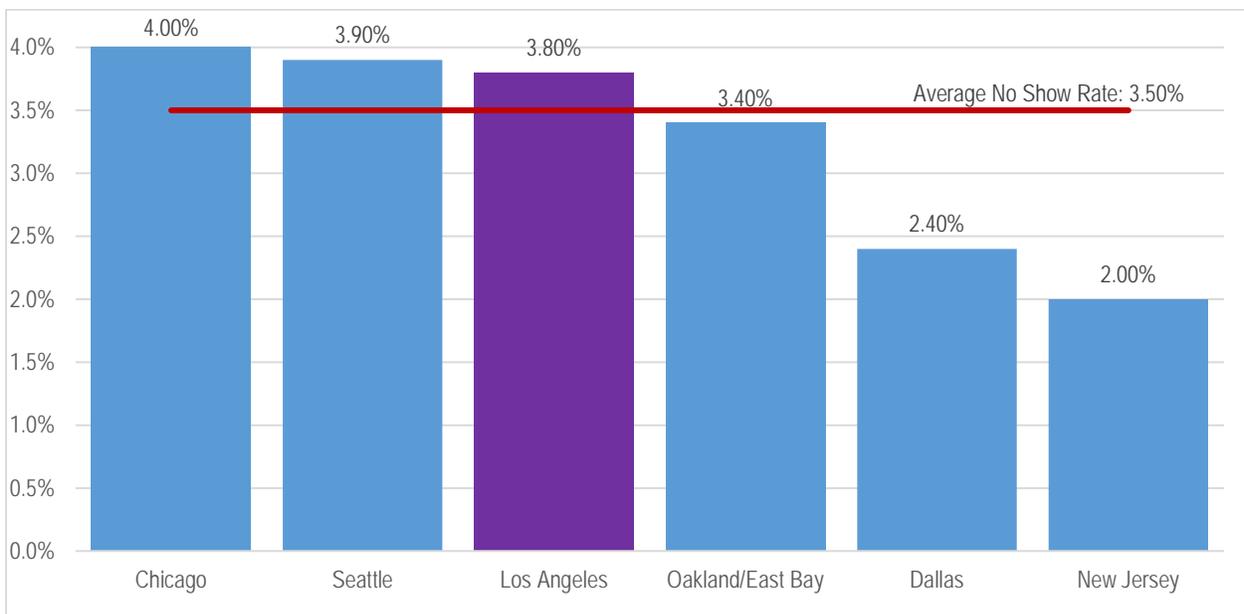
Note: WMATA MetroAccess OTP has varied significantly over the past year, with OTP as low as 83% (<http://wapo.st/2rNo4eM>)

* New Jersey has different service standards for its different service regions. The listed OTP is the median OTP.

No-Show Percentage

Figure 6-11 shows the percentage of no-shows across all peers ranged from 2% to 4% of trips, noting again that the industry norm is to have no more than 5% no-shows. Access ranked above the peer average of 3.50%. The paratransit agency with the lowest percentage of no-shows was New Jersey, at 2%.

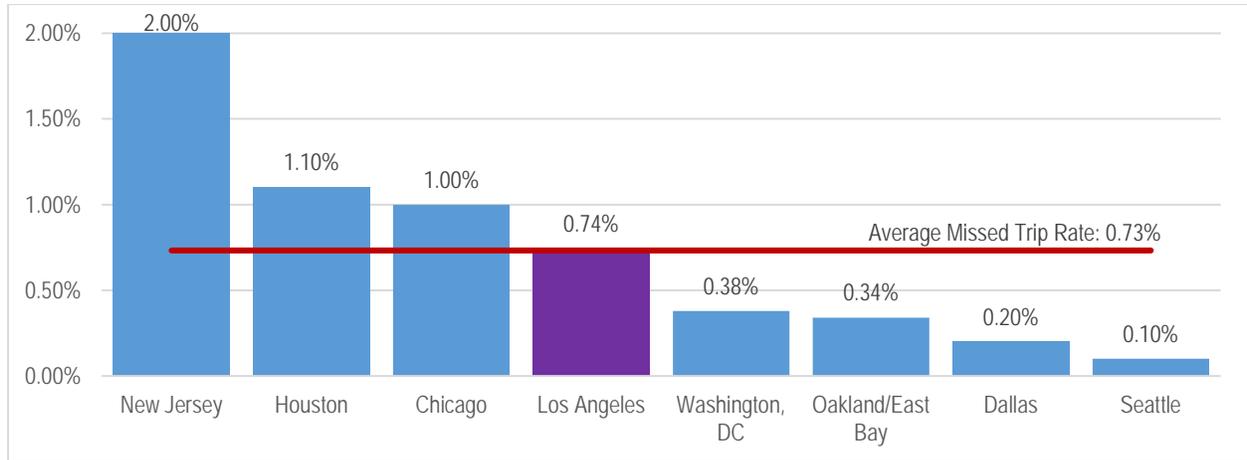
Figure 6-11 | Peer No Show Percentage



Missed Trip Percentage

Figure 6-12 shows the percentage of missed-trips. Of those reporting the average rate was 0.73%, again noting that the industry norm is to strive to be below 0.5%. Many of the peers struggled to meet this. Access' missed trip percentage was 0.74%, almost exactly the peer average. Note, though, that Access is a larger paratransit service than many of the peers and services one million more riders annually than the third ranked peer (Chicago) for ridership. The peer with the highest missed trip rate was NJ Transit at 2%, and the peer with the lowest missed-trip rate was King County Metro in Seattle at 0.1 percent.

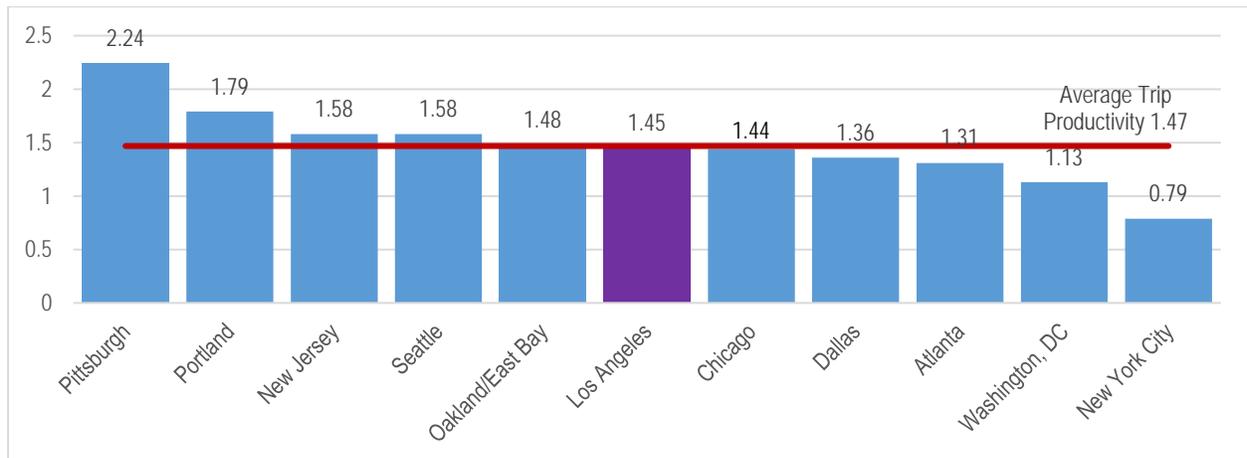
Figure 6-12 | Peer Missed Trips Percentage



Productivity

Figure 6-13 reports on productivity, defined as total passenger trips per RVH. As shown, the peers' productivity ranges from 0.79 (New York City) to 2.24 (Pittsburgh), noting that the latter is a coordinated system and not just ADA paratransit only. Access' overall productivity is nearly equal to the peer average, though it should be noted that this includes taxi RVHs which are defined to exclude deadheading. Four other peers in New Jersey, Oakland/East Bay, Portland, and Seattle, reported slightly higher productivities ranging from 1.48 - 1.79 trips per RVH.

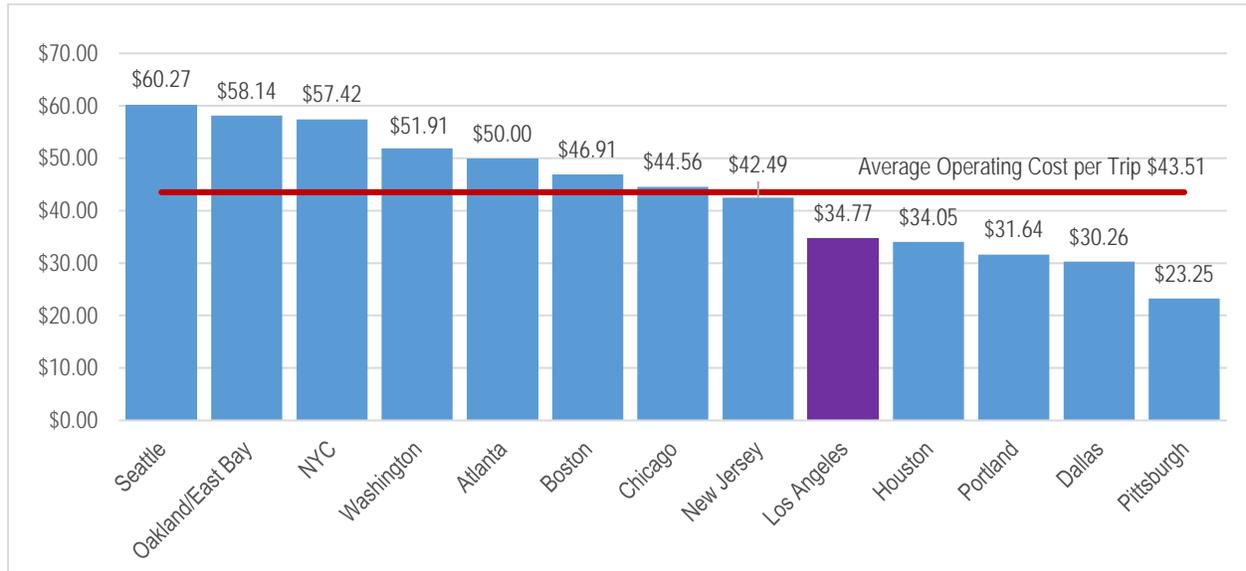
Figure 6-13 | Peer Passengers per Revenue Vehicle Hour (Actual)



Cost Performance

Figure 6-14 presented unit operating cost per trip data. The peer average operating cost was about \$43.50. Access' cost per trip was almost \$35.00, approximately \$10.00 below the peer average. The peers selected for this review represent comparably sized agencies, thus Access fares well when it comes to operating cost per trip, likely due to its heavy reliance on non-dedicated service providers.

Figure 6-14 | Peer Operating Cost Per Trip



Other Characteristics

Procurement Procedures

All peers contract out at least part of their ADA paratransit service operation. The most common method of procurement is based on best value proposals, where technical and cost proposals are scored and analyzed. Some require proposers to include risk or liability as part of the technical or cost scores. For contracting dedicated service providers, when choosing multiple contractors or contractors for zones or pieces of work, a common—though not universal—approach is to request proposed rates to be supported by detailed line-item costing per contract year, which reveal fixed versus variable costs. In some cases (as with Access), proposers are provided a standardized spreadsheet with automatic formulas and summary analysis.

Services beyond Minimum ADA Requirements

It is not uncommon among peers to offer a taxi or transportation network company (TNC) subsidy program as an alternative service for ADA paratransit customers. However, many do not, and only one uses TNCs. In general, the most common feature offered beyond minimum ADA requirements is to serve trips beyond the three-quarter mile fixed-route corridors.

Technology

Figure 6-15 below summarizes the technology peer agencies reported they were using. Some of these technologies are somewhat standard—such as reservations, scheduling, and dispatching software; AVL; MDTs/MDCs; security cameras; and navigational assistance. Other technologies are emerging, such as

the use of IVR systems for trip confirmation or cancellation, cashless payment systems, and APIs linking paratransit software with taxi dispatch systems.

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Figure 6-15 | Technology used by Peer Agencies

Agency	R/S/D Software	Dynamic scheduling	AVL	MDTs/MDCs	Security Cameras	Navigational Assistance	IVR – Advance Booking	IVR – Trip confirmation	IVR – Trip cancellations	IVR – Day-before confirmation calls	IVR – Imminent-arrival calls or texts	Customer mobile app	Centralized fare account	Cashless fare card	API Links to Taxi Dispatch
Los Angeles															
Atlanta															
Boston															
Chicago															
Dallas															
Houston															
New Jersey															
Oakland/East Bay															
Seattle															
Washington DC															

CITED BENEFITS AND CHALLENGES OF DIFFERENT SERVICE MODELS

Figure 6-16 summarizes peers' existing service models, describes the benefits and challenges of those models, and compares those to the alternatives that Access Services may consider as a result of this Comprehensive Operational Review.

Figure 6-16 | Peer Service Model Comparison

Peer Agency	Service Model	Cited Benefits	Cited Challenges/Lessons Learned
Atlanta – MARTA Mobility	Prior to 2016, MARTA performed all CCC and service delivery functions in-house. In 2016, they outsourced all functions, except one, to a turnkey contractor, keeping the reservations functions in-house. However, this model may be modified as a result of union-triggered arbitration relating to 13c issues.	<ul style="list-style-type: none"> ▪ If call center functions are split between the agency and the contactor, it is more effective if all these responsibilities are performed in the same building to allow for improved cooperation. 	<ul style="list-style-type: none"> ▪ Internal IT control of software limits the effectiveness of the software, as the IT department doesn't understand the needs of paratransit
Boston – MBTA The Ride	Prior to 2017, MBTA had a three overlapping zone system with three service provider contractors assigned to each zone. Each contractor performed all four primary call and control functions. Transfers were required for inter-zone trips past a buffer area. The MBTA is currently transitioning to a CCC contractor model with the three service provider contractors continuing to provide service delivery.	<ul style="list-style-type: none"> ▪ Multiple service providers result in competitive pricing. ▪ Splitting rates to cover fixed and variable per trip costs respectively reduces contractor risk if trips decrease substantially and reduces agency risk if trips increase substantially. ▪ Using per trip rates for providers where integrated non-dedicated service is in use makes sense, but severe penalties for late and missed trips must be included to thwart tight scheduling. ▪ Using per RVH rates for providers under a centralized system reduces risk on both sides, but must include productivity incentives/penalties to accompany service quality incentives/penalties. Centralized control of run structure and daily run changes is essential. 	<ul style="list-style-type: none"> ▪ Under either model, having the same software eases reporting and comparisons ▪ Changing software concurrent to a service model change is not advised; wait until after things have settled down (after the service model change) before seeking new software ▪ Contracting process can include multiple bids (for different package sizes); agency must weigh reduced costs as a result of economies of scale with less competition and increased challenge of responding to contractor failure

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Peer Agency	Service Model	Cited Benefits	Cited Challenges/Lessons Learned
Chicago – Pace Paratransit	<p>Prior to 2016, Pace's model for the city of Chicago had a 3-zone system with three service provider contractors assigned to each zone. There was also a fourth carrier that provided long distance trips and was available as a back-up. Each of the three primary contractors performed all four primary call and control functions.</p> <p>In 2016, Pace retained a CCC contractor to perform scheduling and to handle customers' same-day issues. Thus, customers continue to call their home provider to book a trip; however, as a result of the third-party scheduling, that trip might be scheduled to another carrier.</p>	<ul style="list-style-type: none"> ▪ Centralized scheduling enhances control over service quality, and improves productivity by reducing inefficient deadheading ▪ Having a dedicated overflow / long-distance trip provider helps manage service demand peaks ▪ Multiple contractors create cost efficiency by fostering competition ▪ Alternative services help to reduce cost by diverting trips from high-cost paratransit to a lower subsidy mode, while offering a mobility option for customers. ▪ Providing customers an alternative taxi option rather than wait for a late vehicle helps manage customer frustration, and avoids induced demand 	<ul style="list-style-type: none"> ▪ Some driver requirements may hinder service capacity without improving service overall.
Dallas – DART Mobility Management	<p>Prior to 2015, DART had a model that utilized in-house staff for all four CCC functions and one contractor for service delivery.</p> <p>In 2015, DART switched to a turnkey contract, where the primary contractor performs all CCC functions and delivers about 30% of the trips. It has a taxi contractor which serves 70% of the trips via dedicated runs, semi-dedicated taxis, and non-dedicated taxis.</p>	<ul style="list-style-type: none"> ▪ Customer access to ETAs based on real-time location of vehicles (through online tools like MOBI) can greatly improve call center functions by lowering overall call volumes. ▪ Using a taxi company to serve the majority of trips can enhance service flexibility ▪ The current service model also helps to better manage demand for the service, and enhances service quality, as the agency only has to hold one contractor accountable for all functions of the service ▪ Payment per trip has allowed the agency to better manage cost ▪ With one contractor, new technologies can be implemented more easily 	<ul style="list-style-type: none"> ▪

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Peer Agency	Service Model	Cited Benefits	Cited Challenges/Lessons Learned
Houston – METROLift ⁹	In Houston, the transit agency performs the CCC functions in-house and Metro has two (unzoned) contractors for service delivery	N/A	N/A
New Jersey – NJ Transit Access Link	NJ Transit performs reservations and same-day issues, with NJ Transit employees and contract employees. NJ Transit schedulers are responsible for the runs structures, master templates of subscription trips, and creating the daily schedules. There are six service provider contractors each assigned to a region of the state. Their schedulers finish off the daily schedules. The contractors are responsible for dispatching.	<ul style="list-style-type: none"> ▪ An in-house call center enhances control over service quality and productivity/cost ▪ Using contract employees alongside employees in the call center helps with cost and staffing flexibility but turnover is still a problem ▪ Using contractors for service delivery allows the service to remain more flexible over the short term, which is valuable for the agency as it has consistently experienced annual increases in demand of 10% ▪ Staggering the procurement of regional providers helps avoid any service gaps ▪ Using multiple providers creates cost efficiency by fostering competition 	<ul style="list-style-type: none"> ▪ Five of the six regional contracts are with the same company; the lack of competition among providers is one reason the service is costly ▪ Vulnerabilities include challenges in obtaining suitable facilities, and limited pool of qualified management talent
New York City – NYC Transit Access-a-Ride	NYCT has a CCC contractor, which performs reservations, scheduling, and same-day issues. There are 17 dedicated service providers assigned to nine zones, who perform dispatch and service delivery. Also, NYCT has two NDSP brokers who are based in different parts of the city. Trips which do not get scheduled to the 17 service provider contractors get assigned to these NDSP brokers based on geography.		

⁹ Has not yet completed our survey section on the value of their service model

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Peer Agency	Service Model	Cited Benefits	Cited Challenges/Lessons Learned
Oakland – East Bay Paratransit Consortium	EBPC’s broker performs all CCC functions. The broker also contracts with three (unzoned) service providers for service delivery.	<ul style="list-style-type: none"> ▪ Using a broker lowered administrative costs ▪ Centralized dispatch creates a systemwide perspective; enhances control over service quality and productivity/cost; and enhances flexibility to respond to service quality issues ▪ Contracting with multiple providers prevents against system failure; and creates cost efficiency by fostering competition 	<ul style="list-style-type: none"> ▪ Contractually required high insurance coverage makes incorporating alternative delivery options difficult ▪ Conflicts can arise between broker and providers because the broker does the scheduling
Pittsburgh – PAT ACCESS	Like LA, Pittsburgh has six zoned contractors who are responsible for all CCC functions and service delivery. Unlike LA, an administrative broker holds the contracts.	<ul style="list-style-type: none"> ▪ Competitive multi-carrier marketplace yields superior cost containment and superior service quality ▪ Brokerage structure also allows broker to involve/grow/groom local carriers, especially DBE/WBE and non-profit organizations ▪ Annual contracting term allows the broker to periodically adjust the market share provided by any individual service provider ▪ Having multiple carriers creates cost efficiency by fostering competition and economies of scale; and enhances flexibility to respond to service quality issues 	
Portland – TriMet LIFT	TriMet contracts separately to respectively provide CCC functions and service delivery in three zones.	<ul style="list-style-type: none"> ▪ Having the same company responsible for call center functions and service delivery in all three zones (under separate contracts) creates cost efficiency through economies of scale 	<ul style="list-style-type: none"> ▪ Shared responsibility for reservations, scheduling, dispatch, and trip provision can create conflicts between groups within the contractor organization

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Access Services

Peer Agency	Service Model	Cited Benefits	Cited Challenges/Lessons Learned
Seattle – King County Metro Access	<p>King County Metro currently contracts with a call center manager to provide all CCC functions, and with two service provider contractors for service delivery.</p> <p>Currently, King County Metro is transitioning to a service model with one turnkey contractor and one subcontractor, both operating dedicated service.</p>	<ul style="list-style-type: none"> ▪ The use of multiple contractors for different functions minimizes the risk for the agency, despite the loss of flexibility ▪ Satellite offices can be employed to allow for service delivery in comparatively remote service areas, which helps lower deadheading 	<ul style="list-style-type: none"> ▪ The reliance on dedicated providers has limited the ability to implement service change, and is expensive ▪ With one dominant service provider, there's no reason to have a separate call center contractor
Washington, DC – WMATA MetroAccess	<p>Prior to 2014, WMATA established a brokerage model that evolved into a partial brokerage where the broker was allowed to – and did – perform service delivery alongside the other service provider contractors.</p> <p>In 2014, WMATA switched to a CCC contractor and three contractors for service delivery. Two of the three service providers share a region composed of the District of Columbia and portions of two Maryland counties in MetroAccess's service area. One of these contractors also supplied non-dedicated service for the region. A third service provider contractor serves the Northern Virginia region.</p>	<ul style="list-style-type: none"> ▪ Centralizing call center functions enhances control over service quality and productivity/cost, and will facilitate encouraging use of alternatives ▪ Working directly with operators, rather than through a broker, enhances system transparency ▪ Online reservations can lower the need for more call center capacity ▪ Having multiple service provider contractors creates cost efficiency by fostering competition ▪ Specialization by contractors leads to improved service delivery 	<ul style="list-style-type: none"> ▪ More labor is required to monitor contractor compliance which is necessary with multiple contractors ▪ Ensuring contractor compliance can be a challenge, especially with the split of responsibilities

LESSONS LEARNED AND APPLICABILITY TO ACCESS SERVICES

The following lessons learned from the peer review will be used in the development of alternative service models for Access

- There is a limited relationship between the service model and productivity. Productivity may have more to do with the incentives built into the contracts and the quality of relationships with providers than with the overall service model.
- In large regions like Los Angeles, using multiple dedicated service providers is a good practice to reduce deadheading and trip length. It also allows for local specialization and further mitigates the risk of a provider failure. That said, more agency labor is required to monitor contractor compliance which is necessary with multiple contractors.
- Most peers with multiple service providers use a centralized call and/or control center model. In some cases, the agency fills the role of the call/control center, but often these functions are contracted out to a center or broker.
- When bidding out for zoned turnkey models, peers recommend requesting bids both with and without a call center contract to determine whether that service model may offer cost efficiencies. Peers report, though, that the RFP must include line item costing and an agency-provided budget template to enable comparisons between models.
- Moving to a centralized model is a significant change and it will take time to achieve success. However, peers with centralized models credit them with better access to information, improved customer experience, and more flexibility, but warn that you cannot rush the transition, and it will be bumpy.
- The WMATA example suggests that in centralized call/control center models, sharing scheduling responsibilities between the control center and the providers can result in more reasonable run structures. This practice provides additional controls for ensuring demand and capacity are better matched, and service improved for customers.
- Centralizing the reservations provides a more consistent approach to customer service and can set the platform for the operationalization of conditional eligibility, an oft untapped strategy to reduce cost.
- Service policies do not need to change when the service model changes – but they can. None of the peer agencies reported changing their service standards because of changing service models. However, because the contracting structure would change, and because in Los Angeles the service model change might increase certain provider's ability to meet on-time performance or other goals, there would be an opportunity to change or fine-tune service standards.
- In New Jersey, five of the six regional contracts are with the same company; the lack of competition among providers is one reason the service is costly.

7 OVERARCHING ISSUES

Prior to discussing our findings and recommendations in each of the key assessment areas, it is first important to identify and discuss some important overarching issues that transcend several of the key assessment areas.

DRIVER SUPPLY AND RETENTION

Probably the most prominent issue confronting Access Services' contractors is driver retention, primarily due to current wage rates. The starting wage rate for a driver employed for dedicated vehicle operation is just above the current City of Los Angeles minimum wage. Access contractors and drivers both noted that higher paid positions have become available with the improving economy, particularly positions in the rapidly growing logistics industry. These logistics industry positions require a similar skill set as driving for Access and therefore likely draw from the same pool of potential workers.

Access contractors therefore find themselves confronted by a significant exodus of employee drivers, including more senior drivers. And even with ramped up recruiting and training efforts, the contractors report a net loss of employee drivers. Contractor management and staff interviewed at each of the contractors reported that they were down drivers – some of the larger contractors reported being down 20-30 drivers.

Current driver retention issues are likely to be compounded by scheduled minimum wage increases. In July 2016, the City of Los Angeles enacted a new minimum wage ordinance that gradually raises the minimum wage at large employers to \$15.00 per hour by 2020. This minimum wage is above the current starting wage for new Access drivers.

In past years, when driver shortages arose, the four largest contractors turned to taxi subcontractors as a way to meet needed capacity. As a result, these four contractors are currently using taxis to serve between 40% and 55% of the trips they served.

However, Access's contractors are now facing challenges with this source as there appears to be a similar exodus of the subcontractors' taxi drivers. Like their brethren in most major cities, taxi operators are seeing the demand for their services gobbled up by the rise of transportation network companies (TNCs) and many of those drivers have either sought other jobs or have become full-time TNC drivers with Uber, Lyft and others. The only good news is that more of the taxi drivers who have remained as such have expressed a desire to become ADA certified. Still, the net of taxi drivers is down as well.

The result of these two factors is that contractors are challenged to fill driver positions, while TNCs will continue to eat away at the taxi demand. Together, these forces create a net loss of drivers and resources for the contractors.

SERVICE/COST EFFICIENCY

Figure 6-14 in Chapter 6 evidences that Access' cost per trip compares very favorably with that of its peers. One of the main reasons for this is the relatively low wage rates of the contractor's drivers, most of whom

are non-union, as well as the significant use of taxis, driven by drivers who are independent contractors. This historically has enabled Access's contractors to offer very competitive rates.

However, there are some inherent service inefficiencies in the current system. The most notable area of inefficiency concerns inter-region trips. With one exception in the current system, a vehicle that is making an inter-region trip cannot be assigned a return trip originating in the other region. Thus, these vehicles must deadhead back to the home region. In the case of the West Central region, for example, CTI is serving all of the inter-region return trips that came into its region from other regions. These trips are mostly served in the afternoon, and one can see a spider-web trip pattern and a counterpart deadheading in reverse. The one exception are trips between the Eastern region and the West Central region, where because of the unified SGT/CTI call center, opportunities for trip exchanges are identified by the common set of schedulers and enable a returning vehicle to be productive.

It is important to understand that improvements to service efficiency have no immediate cost benefits to Access. The improvements in service efficiency do help minimize costs for the contractors, which in turn improves their profit margin, and may help them keep up with the demand, especially in view of the driver exodus described above. But since Access's contracts provide for a per trip rate, it does not immediately matter to Access how productive the contractor vehicles are, as their payment is based on ridership and not how efficient the dedicated fleets are at the moment in serving that ridership. There is a payoff in the long term to Access though; improved productivity of the dedicated fleets can serve as a negotiating point on the next procurement, assuming Access continues to pay per trip.

TELEPHONE ACCESS

Figure 26 in Chapter 5 evidences that average call hold times for reservations and the percent of all reservations calls with hold times over five minutes are reasonable, while the counterpart statistics for ETA calls are both high. For the ETA calls, the implementation of the Where's My Ride app and imminent arrival calls should dramatically reduce the number of ETA calls. If these do not reduce the telephone access stats to more reasonable numbers, Access staff will need to work with the contractors to ensure that additional contractor staff be applied to this function. And while Access reservations hold times appear to be reasonable, it may not be reasonable for customers requesting inter-region trips, who because of current policy, must endure two wait times. Moreover, the customer may also experience a doubling of the call time as s/he needs to repeat the same trip information (only in reverse) that was already provided to the first contractor. This is clearly an inconvenience for customers, especially in comparison to other ADA paratransit systems: we know of nowhere else where there is a similar call transfer for inter-region trips.

This problem has been lessened as a result of the consolidated call centers at both SGT (that receives requests for both the Eastern and West Central regions) and MV (that now receives requests for both the Northern and Southern regions). So, this leaves the inconvenience noted above for the following inter-region pairings in the LA Basin:

- Between Eastern and Northern
- Between Eastern and Southern
- Between West Central and Northern
- Between West Central and Southern

Note also that there is currently a cost, albeit a minor one, for these transferred calls. However, we understand that Access is planning to implement a new telephone system, which will eliminate these transfer charges.

8 POLICIES, PROCEDURES, AND PRACTICES ASSESSMENT

This chapter focuses on assessments of key policies, procedures, and practices identified in previous chapters – including assessments on facility siting and provision, procedures associated with responding to ETA requests and ETA call transfers, inter-region trip call transfers, revising reservations hours to those minimally required under the ADA, and expanding the service area to reflect doubling the size of the fixed-route transit corridors – from three-quarter miles to 1.5 miles.

Facility Siting and Provision

The LA Basin is one of the most active industrial land markets in the country. Increasing demand for industrial land, as well as encroachment by commercial and residential developments, has led to a significant rise in industrial land values in recent years. The increased cost of potential sites for Access contractor's operating facilities presents several challenges, both currently and in the future:

- Limited available industrial land in the West Central region has forced the current contractor (CTI) to locate their operations facility in the Southern region. The current facility is located just south of the far eastern side of the West Central region, which increases required deadheading to serve Westside neighborhoods. Congestion on the 10 freeway towards the Westside decreases service reliability, especially on trips immediately after pull-out. Industrial land values throughout the West Central region will likely continue to increase, especially as available industrial land along Metro Rail lines converts to residential and commercial use.
- Existing Access contractors either have long-term leases or own their operations facilities outright. Increasing industrial land costs will likely increase the lease or purchase price for the large parcels required for Access vehicle fleet yards. Contractors who own their facilities or operate under long-term lease agreements may have significantly reduced costs compared to potential service contractors without existing land agreements. Potential bidders may also be hesitant or unable to enter into agreements for potential facility locations before they are awarded a contract with Access. Difficulty leasing or purchasing land for operations facilities may therefore reduce the number of potential bidders for future Access service contracts, and by extension increase proposed rates (because there is less competition).

To ensure that a wider range of potential service contractors could operate reliable service in the LA Basin, Access could choose to purchase land for operations facilities. Access would provide land (and likely office and maintenance facilities) to service operators as part of their contract, similar to how Access currently provides dedicated vehicles. Ideally, these Access-owned facilities would be centrally located within each service region. With this model, all potential bidders would have access to the same operations facilities at the same cost, evening the playing field for new entrants to the market. Access would also ensure more stable service reliability into the future, especially as congestion increases throughout the service area.

Alternatively, Access could work with fixed-route operators in LA County to identify available space to store Access vehicles in their existing vehicle yards or other agency-owned properties. Access contractors could use these resources to strategically stage Access vehicles in difficult-to-serve locations in their service region. For example, Access could enter into an agreement with a Westside transit operator (such as Santa Monica Big Blue Bus, Culver City Bus, or Metro) to stage vehicles at their yard or public parking garage. Given the current per trip service model, contractors would likely pay the fixed-route operators (either directly or through Access) to access these staging areas. If Access moved to a different payment model, the agency may be incentivized to directly pay for this access. The primary challenge to initiating this concept would be identifying potential fixed-route operator partners, as many agencies prefer to have excess capacity at their existing facilities or may be hesitant to enter into an agreement that would (temporarily) reduce available space for future fleet expansion.

In either case, one of the risks in Access providing the facility is that the size of the facility may put an undo constraint on the contractor. For example, in Vancouver, BC, where MV is currently the turnkey provider, the transit agency provides various facilities for MV throughout the region. In one of the largest facilities where the call center is based, the size of the call center is limited and can no longer house a staff big enough to handle the increasing ridership and ensuing call volume. And because there is not enough room to expand the reservations staff, the average call time has soared. We can also envision a circumstance in Los Angeles where the yard or the maintenance facility in either of the above approaches is not large enough to support a growing fleet. And if Access conservatively leases enough land to support future expansion and that expansion does not happen, it may prove to be a wasted investment.

That said, if Access does not invest in contractor facilities, it will likely keep the same set of service provider contractors for the foreseeable future. Should Access decide that it is worth the investment (to improve the competitiveness of the contracting), the ideal situation would be to obtain -- or enter into a long-term lease for -- a facility and/or land that is *scalable*, or where a portion of the facility or land could easily be sublet. And, if Access opts to centralize any or all of the call and control center functions, it will need to either provide a facility for that contractor or include a contractual provision where Access has the right to assume the contractor's lease at the end of the contract.

ETA Requests

As discussed previously, some of the contractors' call-taking staffs are responding to ETA request calls received before the pick-up window for that particular trip has ended. This is the opposite of the Access directive, which instructs customers to wait until the end of the pick-up window to place such a call, if needed. Many of the ETA calls that come in during the window might never need to be made, as the vehicle may arrive a few moments later and within the pick-up window. This practice likely increases hold times, as customers become accustomed to making ETA calls before the pick-up window has ended and call more frequently, increasing overall call volumes. Contractors will likely have to add additional staff to address the increasing volume so as to meet hold time standards. Access will pay for this increased volume in the long run, or contractors will increasingly be unable to meet hold time standards.

Consequently, while there are other pursuits that Access is undertaking or considering that will reduce the number of ETA calls, such as the Where's My Ride app and IVR-based imminent arrival calls, the least costly approach to this problem is for Access staff to ensure that its policy is correctly observed, which will also mean retraining staff. The procedure for this, as exhibited by SGT/CTI staff, should serve as the model. In addition, we also suggest an e-blast to customers -- and/or messages while the customers are on hold -- reminding them not to call for an ETA until after the end of the pick-up window.

The second ETA issue relates to Southern region customers having to wait first for an MV call-taker to answer their ETA call and wait a second time for the GPI call-taker to answer the transferred call. Access is currently rectifying this issue.

Inter-Region Trip Call Transfers

Customers throughout the system that are making calls to book inter-region round trips are encountering a double hold time, first with their home service provider, and secondly, with the contractor that will take the return trip. They also experience double the call time, as they have to repeat much of the same information to the second carrier but in reverse. This is clearly a major inconvenience for any customer making an inter-region trip, with the exception of Eastern and West Central region customers who are making a round trip between these two regions. In this case, there is no need to transfer the call since the SGT/CTI combined reservations staff can take both legs of the trip. The same is true now with the round trips between the Northern and Southern regions because of the unified call center in Van Nuys. But for the rest of the regional pairings in the LA Basin, customers are inconvenienced, and because the hold times and call times are tracked separately, it would be a challenge for Access to determine the actual collective hold and call times for these calls.

Following on these examples of the combined call centers, there are three approaches to reduce (further) or completely eliminate such transfers of call:

- Have the home service provider book and serve both legs of high volume trips such as to/from high-frequency common destinations in the West Central region, and possibly elsewhere
- Centralize the reservations functions for the LA Basin
- Have each home service provider book and serve both legs of all trips

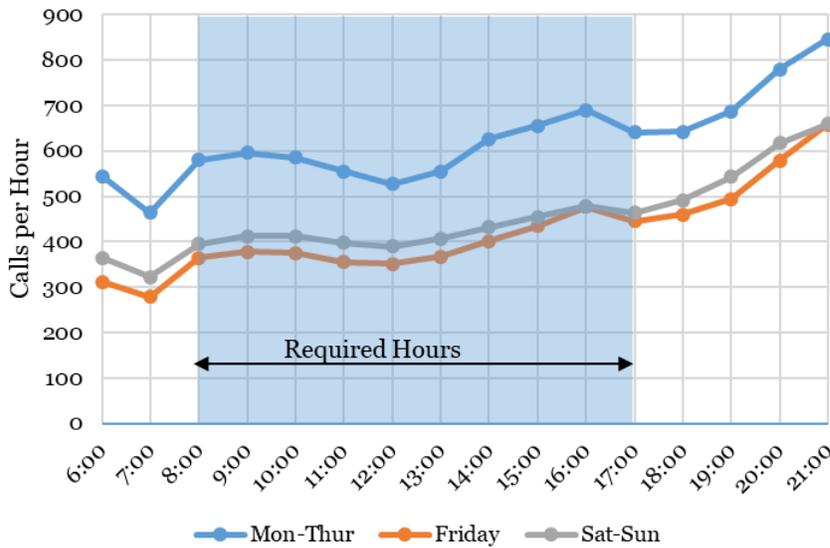
All three approaches will reduce or completely eliminate the call transfers. The first two approaches also have the benefit of possible improvements in service efficiency, unlike the third approach which may do the opposite.

Reservations Hours

Reservations for trips in the LA Basin and Santa Clarita are taken from 6:00 a.m. to 10:00 p.m. seven days a week (except on Sunday in Santa Clarita, when the line closes at 8:00 p.m.). This substantially exceeds the ADA requirement, which is to take reservations “during at least all normal business hours of the entity’s administrative offices, as well as during times, comparable to normal business hours, on a day when the entity’s offices are not open before a service day.” “Normal business hours” refers to times when administrative offices are open. This is not a precise concept, since administrative offices are not necessarily open to the public, but it is usually taken to mean 8:00 a.m. to 5:00 p.m.

Taking reservations for extended hours is a great convenience to customers, who may be occupied with their daily activities during the day, or may rely on caregivers who are not available during the day. Further, since Access only takes next-day reservations, customers must find time to call for reservations the exact day before they need to travel. These considerations help explain the daily pattern of reservations calls, which is greatest during the evening hours. Figure 8-1 shows this pattern for the system as a whole. While overall calling volumes are lower on Fridays and weekends, the overall pattern is that the most popular times are at the end of the day between 7:00 p.m. and 10:00 p.m. As shown earlier, in Figure 5-15, these are also the times customers have the wait on hold the longest.

Figure 8-1 | Reservations Calls Answered Per Hour



Notes: Telephone statistics for an average week.

Source: Access

Reducing reservations hours might be considered if it had significant benefits to Access that would balance any inconvenience to customers. Two benefits that might be possible are: 1) reduced cost for taking reservations; and 2) ability to create more productive vehicle schedules taking advantage of a longer interval between the end of reservations and the start of the service the next day. Each of these is considered in turn.

Cost of Taking Reservations

Shortening reservations hours is not likely to reduce the cost of taking reservations. With shorter hours, assuming there is no reduction in demand, customers would need to make the same number of calls in fewer hours per day. In other words, the number of incoming calls per hour would increase. More agents, and possibly more workstations and incoming telephone lines, would be needed to avoid causing very long hold times. It is possible there would be some small increase in efficiency, but at the volume of calls now being taken, the number of agents needed is essentially proportional to the number of incoming calls per hour. For example (using hypothetical numbers), if 10 reservations agents are needed to answer 100 calls per hour, approximately 15 agents would be needed to answer 150 calls per hour. This means that the total number of agent-hours needed is mainly determined by the total number of calls that need to be answered, not the number of hours that calls are taken.

Because of limitations in how agents are scheduled, the best use of agent time will be possible when call volumes are fairly even throughout the day. Reducing the reservations hours would not be likely to create a more even pattern of call volumes, and might create an even bigger end-of-the-day rush, which would be less efficient to serve than the existing pattern.

Ability to Produce Productive Vehicle Schedules

It might be possible to create more productive vehicle schedules depending on how providers go about scheduling. For example, it could be that schedulers wait until the close of reservations and then attempt to produce a complete schedule for the following day, assigning the great majority of trips to vehicle runs to achieve maximum productivity. In that case, having more time to perform this task could let it be done

better. In practice, however, based on our observations of actual scheduling practices at Access' providers, this appears very uncertain.

Scheduling practices vary considerably among the providers. At the combined SGT/CTI facility, scheduling for the next day is done by the same person who performs nighttime dispatching. This is a largely automated process which is, apparently, easily combined with the night dispatching function. At MV and Global, who use different software, the process is more labor intensive and might benefit from additional time. The main benefit might be added convenience, i.e. the ability to conduct scheduling during more conventional working hours, instead of the period beginning at 10:00 p.m.

There could also be some benefit for driver scheduling, again depending on how the providers go about creating driver schedules. This assumes flexible driver assignments, i.e., providers determine the number of drivers needed for various shifts each day depending on the number and pattern of trips requested. Even if reservations cut off at 6:00 p.m., it would not be possible to notify drivers about needed runs until well into the evening. Given the providers' difficulty recruiting and retaining drivers, this flexibility may be of limited value. One group of drivers for whom flexible assignments may be feasible would be taxi drivers who commonly work very flexible schedules and can be given short clusters of trips lasting several hours rather than a full shift. Being able to provide earlier notice of taxi driver requirements might have some benefit for making optimal use of this resource.

Changes in operating methods could impact the potential value of a reduced reservations hour. In particular, if a centralized scheduling function is implemented (as in Service Structure Alternatives 5 and 6, as explained in Chapter 13), added time could be beneficial for preparing these schedules and coordinating between the central scheduler and providers.

Of course, any improvement in productivity would not reduce the costs to Access in the short run, since Access pays a fixed cost per trip. However, it could give the contractors some leeway to pay more to retain drivers, and would help Access in future contract negotiations.

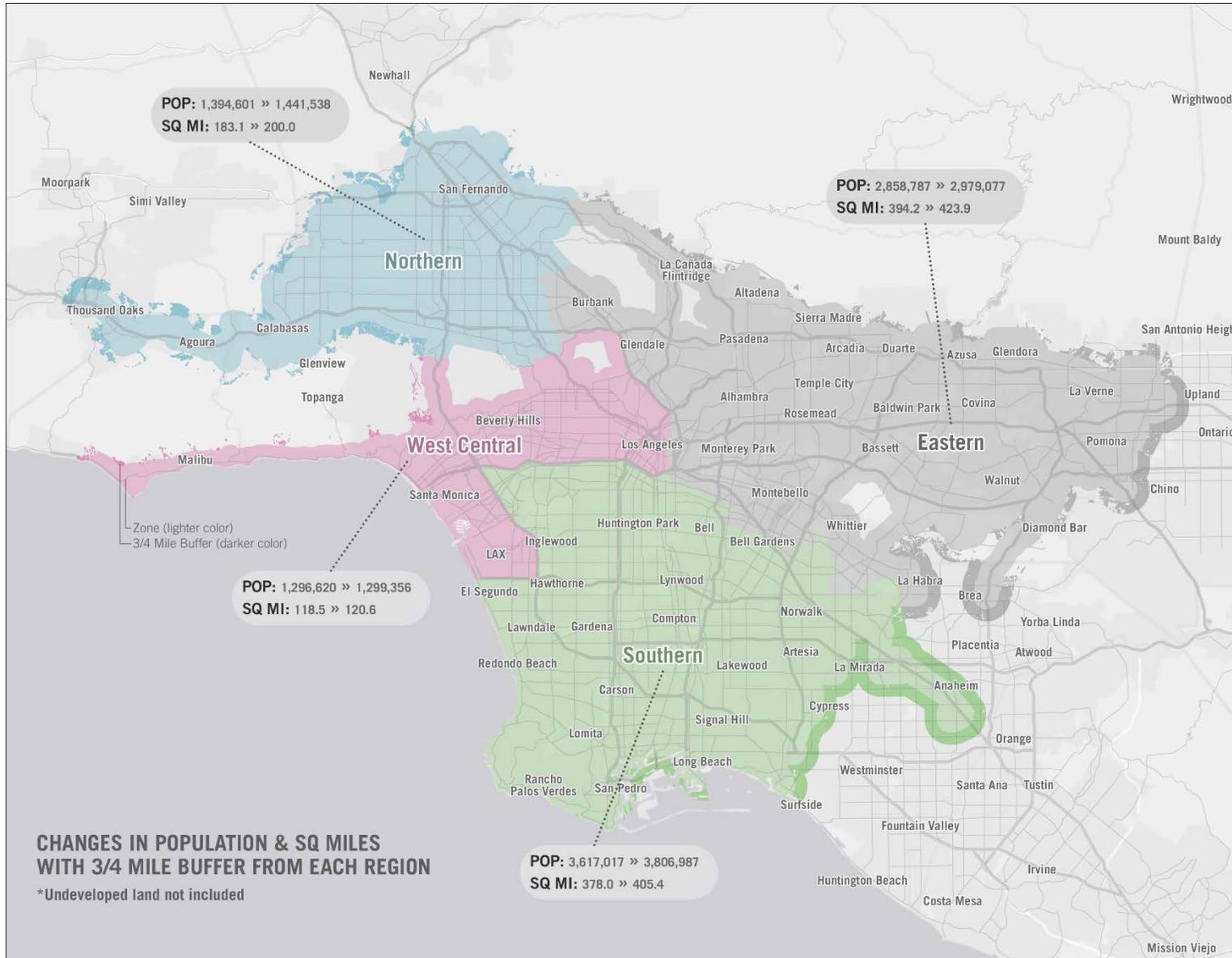
Expanding Service Area beyond ADA Requirements

Access Services requested an analysis of the impact of expanding the service area beyond the ADA minimum, and while such a geographic expansion might have a greater impact on the Santa Clarita and Antelope Valley regions, our analysis focuses on the LA Basin region because it reflects 94% of the trips.

The ADA regulations require complementary paratransit to and from locations within three-quarters of a mile of all fixed-route services whenever those services are operating. This is approximately the current service area. We analyzed the impact of extending service to cover locations within 1.5 miles of all fixed-route services, i.e., twice the required buffer around fixed routes. The analysis assumed that the proposed change was essentially equivalent to adding a three-quarter mile buffer around the existing service area as illustrated in Figure 8-2. The added areas are shown on the map with darker shading. Areas that the Southern California Association of Governments (SCAG) identifies as agricultural or undeveloped are excluded, resulting in the eaten-away look in the north and west where the service area borders on mountainous and/or agricultural areas. The most significant impact would be in the east and south, where the Access service area borders on portions of Orange, Riverside, and San Bernardino counties.

There would also be some increase in the area served due to filling the holes that are visible within the existing service area. However, these are mostly parkland or other unsettled areas, with few or no roads.

Figure 8-2 | Impact of Expanding the Access Service Area Map



Using digital files of the existing service area and detailed Census data, the impact of the change was calculated as shown in Figure 8-3. The calculation of added area excludes areas that SCAG identifies as agricultural or undeveloped. The result is that the population served would increase by about 3.9% and the area served would increase by about 7.1%. Experience nationally is that demand for ADA paratransit is roughly proportional to total population served, so an increase in demand of about 3.9% could be expected. In addition, the added area would have the effect of allowing longer trips by people within the existing service area as well as by the new customers. A 7.1% increase in area corresponds to a potential increase in trip length of about 3.5%.¹⁰

Figure 8-3 | Impact of Expanding the Access Service Area

Region	Existing Population	Population in the Expanded Area	Existing Area (Sq. Mi.)	Expanded Area (Sq. Mi.)	Population Increase	Area Increase
Eastern	2,858,787	2,979,077	394.18	423.93	4.2%	7.5%
West Central	1,296,620	1,299,356	118.52	120.57	0.2%	1.7%
Southern	3,617,017	3,806,987	377.99	405.42	5.3%	7.3%
Northern	1,394,601	1,441,538	183.12	200.04	3.4%	9.2%
Total	9,167,025	9,526,958	1,073.82	1,149.97	3.9%	7.1%

The increase in trips would increase the purchased cost of transportation as well as oversight and administration costs by Access. The increase in trip length would also increase purchased cost, but would have minimal impact on Access oversight and administration, aside from a slightly accelerated vehicle replacement schedule and a small increase in vehicle liability cost. A 3.9% increase in trips would add about \$5.3 million to budgeted FY 2017 operating costs. A 3.5% increase in cost per trip, applied to existing trips and added trips, would add about \$4.3 million to the budgeted cost of purchased transportation in FY 2017.

Additional detail about the added area is contained in a Google map which can be viewed at <https://goo.gl/UKs504>. In this map it is possible to zoom in to identify places that would be added. These include the following:

Eastern:

Cable Airport
New Orleans Square
Foothill Ridge Apartments
North Upland Apartments
Mtn. Green Shopping Center
The Shoppes at Chino Hills
Chino Spectrum Town Centre
Brea Union Plaza
Imperial East Shopping Center
Las Palmas Apt. Community
Brea Downtown

Southern:

Boeing offices
Shops At Rossmoor
Nexus Town Center
West Anaheim Medical Center
Ball & Euclid Plaza
Business Expo Center
City National Grove of Anaheim
West Fullerton Shopping Center

Northern:

Indian Hills Mobile Home Village
Conejo Valley Plaza Shopping Center
Janss Marketplace

West Central:

Palisades Hills Recreation Center
Lechuza Beach

¹⁰ This is calculated based on the general principal from geometry that area increases with the square of linear dimensions. For example, doubling the diameter of a circle increases its area by a factor of four. Going from area to linear dimensions (like the diameter of a circle) requires the reverse calculation, i.e. square root. So, if the new area is 1.071 times the old area, the likely average trip length would increase by the square root of this value, which is 1.035, an increase of 3.5%.

Same-Day Service

Currently Access customers can reserve trips one day in advance, a model known as next-day service. This is the requirement established by regulations implementing the paratransit provisions of the ADA. Transit operators are free to offer services that exceed the ADA requirements, such as same-day reservations, but these cannot substitute for service meeting the ADA requirements, which must always be provided. So, any provision for accepting reservations on the day of service would be above and beyond the ADA requirements, and would need to be offered in addition to the existing next-day service.

Until 2003, Access operated under a policy that did allow same-day reservations, known as “Ready” service, in contrast to subscription service, which was known as “Steady” service. Ready service reservations were accepted from 24 hours ahead of the requested pick-up time up to 45 minutes before the requested pick-up time. In 2001, faced with rapidly increasing demand and operating costs, Access Services developed a plan to change from the Ready-Steady model then in use to one based on next-day reservations, which went into effect in July 2003.

The switch to next-day service was motivated by the need to deal with ever-increasing demand, but it also responded to findings by the Federal Transit Administration that the same-day model did not comply with ADA requirements for next-day service. In other words, in order to be in compliance, it would have been necessary to provide both same-day and next-day service.

Looking forward, three types of possible same-day service are analyzed: space-available same-day service, supplementary alternative same-day service, and same-day Access.

Space-Available Same-Day Service

Initially, Access continued to accept limited same-day reservations, but only on a space-available basis. However, these trips were very limited, amounting to only 3% of trips in the first six months of the next service model. As demand continued to increase, the space available for same-day service became even more limited and less useful as a realistic option. Currently, there is no provision for same-day service, which is the same policy followed by most ADA paratransit systems.

A few systems continue to accept limited requests on a space-available basis, sometimes for a premium fare. For example, the Santa Clara Valley Transportation Authority (VTA), which serves San Jose and surrounding communities in the southern part of the San Francisco Bay Area, provides same-day service “when space is available” at a fare four times the regular paratransit fare, and advises passengers to allow up to three hours for a pick up.

It might be expected that some space for same-day reservations would be available due to last-minute cancellations and no-shows. In practice, however, any space freed up this way is usually needed to make up for unanticipated delays and incidents. In addition, because of the no-denials requirements of ADA, it is common for paratransit operators to have to accept some next-day reservations that do not fit onto vehicle schedules as planned the day before. On the day of service, some of these trips can be scheduled into any space that becomes available due to cancellations and no-shows, and some have to be carried using taxicabs.

Supplementary Alternative Same-Day Service

Some transit systems offer limited same-day service using taxicabs. For example, the Orange County Transportation Authority (OCTA) offers its ADA paratransit riders a non-ADA “Same-Day Taxi” service. Same-Day Taxi trips are reserved through the paratransit reservations center. The fare for a short trip is the same for ADA paratransit. However, for trips more than five miles long, customers have to pay the extra meter charge themselves. The Regional Transportation District (RTD) in Denver offers a similar

non-ADA service called access-a-Cab. The passenger pays the first \$2.00 of the fare; RTD pays the next \$12.00. The passenger is responsible for any amount over \$14.00.

The benefit of these types of programs falls into two categories. For the customer, the taxis provide an on-demand mobility option compared to the ADA paratransit's next-day/advance reservations, while the transit agencies enhance their ADA paratransit customers' financial ability to use these resources by defraying the fare. For the transit agency, a customer opting to use this service instead of the ADA paratransit service for a particular trip potentially means a reduction in demand and hence cost, if (a) the trip diversion does not result in a significant decrease in productivity of the dedicated ADA operation – for example, if the alternative service results in a significant diversion of short trips – and (b) the savings from the diverted trips (i.e., the difference between the higher subsidy of the ADA paratransit service and the lower subsidy of the subsidy program) is more than the additional subsidies associated with any new trips generated (that would not have been taken on the ADA paratransit service. In the case of access-a-Ride, RTD has analyzed these two issues and concluded that they are reducing overall cost. And, in Boston, the evidence shows a 20% reduction in use of The RIDE by participants of the pilot subsidy program, which to date has yielded a 6% cost savings for those participants.

On the other hand, an analysis by Nelson\Nygaard in Chicago found that the supplementary taxi service there was mostly used by other people than those who use the ADA paratransit service, and the trips they took were very different than those carried by ADA paratransit. This suggests that the same-day taxi service may attract users who would not otherwise apply for ADA paratransit and produces demand for trips that would not be provided by ADA paratransit.

Note also that Boston has implemented an alternative service using TNCs, while several other transit agencies in Broward County, FL, Las Vegas, and Washington, DC are planning to implement one in 2017. A design feature that several of these pilot programs are using is to cap trips on the subsidy program based on historic usage of the ADA paratransit service. This increases the chances that the transit agency will realize some savings.

Still, if Access were to add this service option, we recommend that it budget for its cost rather than assuming that any cost would be balanced by reduced demand for ADA service. Based on experience at OCTA, demand for a same-day taxi service could reach 10% of total Access demand within a few years of implementation, with potential further growth beyond that.

Same-Day Access

In theory, Access could simply change its reservations policy and begin accepting same-day reservations. To our knowledge, the only U.S. transit system that offers unrestricted same-day reservations is AAATA in Ann Arbor, MI; thus, there is very little, if any, body of experience that would allow a meaningful estimate of the impact of such a change. What can be said is that there would be a substantial increase in demand for service. In the years before the passage of ADA, there were some paratransit systems that offered same-day service, but usually with severe capacity limitations. A 2007 TCRP report reviewed an analysis of data from that time and suggested that a 20% to 30% increase in demand might be expected.¹¹

¹¹ TCRP Report 119: Improving ADA Paratransit Demand Estimation, page 80, citing the 1991 Regulatory Impact Analysis of ADA, prepared for DOT by Hickling Corporation.

9 FLEET AND SERVICE MIX ASSESSMENT

FLEET SIZE METHODOLOGY AND CALCULATIONS

Fleet Utilization Factor: Baseline vs. Actual

Our first step in our fleet-related assessment is to determine what the vehicle needs will be based on the forecast ridership and Access' vehicle need ratio of one vehicle for every 400 monthly passenger trips, which herein will be referred to as the fleet utilization factor (FUF). We first confirm the relationship between this FUF and existing fleet sizes and monthly passengers to gain a sense for how actual fleet needs could vary for each year in the capital plan. The FUF does not account for the weekly, daily and hourly variation that may occur, but it is a useful benchmark for determining fleet size based on the current Access approach to fleet size estimation. This value could vary by month and day, so estimating the appropriate level of variation of the FUF can inform the sensitivity of the fleet estimates according to the variation of the attributes which influence the FUF.

To examine the existing fleet utilization (the *actual* FUF), FY 2016 monthly ridership data is divided by the current Access fleet size, i.e.:

For entire trip count divided by Access vehicles (listed in Figure 9-1), the fleet utilization factor is calculated as:

$$\frac{\text{Total Trips Completed each Month}}{\text{Access Dedicated Fleet Size}} = FUF_D$$

Figure 9-1 | Current Fleet (FY16)

Region	Access-Owned Vehicles	Contractor-Owned Vehicles	Certified Taxis	Total
Eastern	196	12	402	610
West Central	113	5	81	199
Southern	247	12	835	1,094
Northern	135	37	0	172
Antelope Valley	38	9	0	47
Santa Clarita	8	4	0	12
Access Total	737	79	1,318	2,134

The *actual* FUF is tabulated for each month and service region in Figure 9-2. Figure 9-2 reports the fleet utilization for trips for the four major service regions in the LA Basin: Eastern, West Central, Southern and Northern. (The FUF values for Antelope Valley and Santa Clarita were generally under 300 and never higher than 357 for any month, so these service regions are omitted from the rest of this analysis as their fleet seems sufficient according to the 400 monthly trips per vehicle criteria.)

Figure 9-2 | Ridership and Fleet Utilization (FY 2016)

Month	Monthly Ridership				Fleet Utilization Factor, Dedicated Vehicles			
	Eastern	West Central	Southern	Northern	Eastern	West Central	Southern	Northern
15-Jul	77,273	43,168	93,348	51,229	394	382	378	379
15-Aug	76,186	41,045	92,102	50,762	389	363	373	376
15-Sep	77,709	42,354	94,397	51,777	396	375	382	384
15-Oct	82,523	44,920	100,042	55,152	421	398	405	409
15-Nov	73,127	40,015	89,802	48,603	373	354	364	360
15-Dec	72,687	40,063	90,545	48,820	371	355	367	362
16-Jan	70,401	39,898	87,153	47,442	359	353	353	351
16-Feb	73,394	40,858	91,939	50,049	374	362	372	371
16-Mar	81,019	43,468	99,203	54,518	413	385	402	404
16-Apr	77,233	40,377	96,239	51,847	394	357	390	384
16-May	77,916	43,496	97,961	51,889	398	385	397	384
16-Jun	77,250	42,737	97,393	51,984	394	378	394	385

The highlighted cells in Figure 9-2 indicate where the actual FUF was greater than the 400 benchmark FUF. Not surprisingly, this occurred in two of the highest ridership months – October 2015 and March 2016.

The actual FUF numbers in Figure 9-2 suggests that using 400 monthly trips per vehicle as a benchmark for estimating fleet needs is a useful approximation to ensure a level of service—assuming vehicle availability is a key factor in determining level of service—similar to what customers are currently experiencing, as many of actual FUF values are near 400 for each month in 2016.

Ridership Forecast Factors

The Access ridership forecasting report dated February 23, 2017 and produced by HDR, Inc. suggests annual ridership increases in the range of 4% and 7.3% from FY 2017 to FY 2022 (p 53, HDR). Over the previous five fiscal years (2011-2016), however, passenger trip requests have increased an average of 6%-9.5% systemwide, with similar increases in ridership in the four LA Basin regions over the last two years. In the HDR report, ridership was modeled for each service area and includes variables for real average fare, unemployment, gas price, and seasonal and autoregressive (time series) terms. The appendix of the HDR report provided several tables forecasting passenger trip demand for each region, for each month of each fiscal year.

Figure 9-3 below reports the highest and second highest anticipated monthly ridership for each fiscal year. The second highest ridership is used as a check for the fleet needs; in other words, if the difference in fleet sizes for the highest ridership month and the second highest is more than one or two vehicles, Access might be justified in planning based on an increased usage of taxi subcontractors, especially if its capital fund availability is limited. Note that the highest and second highest ridership months also tend to occur toward the end of a fiscal year, i.e., June or July. Historically, October and March see higher ridership than other months.

Figure 9-3 | Ridership Projections by Highest Months for Future Years

Highest Ridership Month in Fiscal Year						
Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita
2017	109,238	60,957	129,210	70,318	20,066	4,344
2018	112,946	65,277	139,784	74,501	23,050	4,741
2019	118,776	69,424	151,648	78,947	26,664	5,153
2020	123,646	73,651	164,968	83,734	30,943	5,595
2021	128,764	77,958	179,582	89,139	36,100	6,119
2022	134,412	82,334	195,334	94,941	42,127	6,667
Second Highest Ridership Month in Fiscal Year						
Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita
2017	108,329	60,880	128,677	69,793	19,982	4,169
2018	112,591	65,080	138,784	73,081	22,979	4,577
2019	118,041	69,007	150,614	77,093	26,575	4,938
2020	123,209	73,220	164,062	81,577	30,870	5,359
2021	128,708	77,472	178,806	86,522	36,014	5,847
2022	134,002	81,799	194,654	92,024	42,127	6,406

Estimated fleet needs for highest and second highest ridership months are reported in Figure 9-4, noting that Access analysts should determine where needs are greatest given knowledge of each operating region and its limitations, as well as the potential for eventually contracting service to other providers, especially under some of the service model alternatives which do not require regional boundaries.

Projected Fleet Needs

The next step in the methodology was to project fleet needs by dividing the expected monthly ridership by 400 for each month, i.e., using the 400 monthly trips to one baseline FUF. Note that the HDR study forecasts passenger trips that include both ADA eligible customers and other riders, such as companions and PCAs. It is estimated based on information in Chapter 5 that the total number of trips (including PCA trips and companion trips) equivalent to 1.3 passenger trips, so the values in Figure 9-3 were divided by 1.3 to obtain the ADA customer trip values to use in the 400 to 1 formula for vehicle needs estimation.

Figure 9-4 | Fleet Needed for Highest and Second Highest Ridership Month in Future Years

Fleet Needed for Highest Ridership Month in Fiscal Year						
Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita
2017	210	117	248	135	39	8
2018	217	126	269	143	44	9
2019	228	134	292	152	51	10
2020	238	142	317	161	60	11
2021	248	150	345	171	69	12
2022	258	158	376	183	81	13
Fleet Needed for Second Highest Ridership Month in Fiscal Year						
Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita
2017	208	117	247	134	38	8
2018	217	125	267	141	44	9
2019	227	133	290	148	51	9
2020	237	141	316	157	59	10
2021	248	149	344	166	69	11
2022	258	157	374	177	81	12

Figure 9-5 below reports the number of vehicles Access would need to purchase to meet the anticipated fleet size needs in Figure 9-4. These numbers are the difference in total fleet needed (Figure 9-4) and the current number of Access dedicated vehicles (Figure 9-1). For most cases, the total number of vehicles needed is the same or very similar for the highest and second highest ridership months. For the Northern service region, however, the projected additional vehicle needs each year vary somewhat for the highest and second highest ridership months.

Figure 9-5 | Projected Dedicated Vehicle Fleet Size Increases for Future Years

Fleet Needs Compared to Current (May 2017) fleet size						
Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita
2017	20	4	9	0	1	0
2018	7	9	21	8	5	1
2019	11	8	23	9	7	1
2020	10	8	25	9	9	1
2021	10	8	28	10	9	1
2022	10	8	31	12	12	1
Fleet Needs (for second highest month)						
Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita
2017	18	4	8	0	0	0
2018	9	8	20	7	6	1
2019	10	8	23	7	7	0
2020	10	8	26	9	8	1
2021	11	8	28	9	10	1
2022	10	8	30	11	12	1

In addition to the vehicle requirements associated with the increases in demand, it is also necessary to determine how many vehicles must be replaced annually due to the aging of the current fleet of vehicles that Access has provided to each service contractor. Data was provided by Access on the entire fleet as of early 2017, including model year of each vehicle, the date that it went into service, and how many miles it had on its odometer. Using these data, and assuming that the data was current as of February 1, 2017 (other assumptions of effective date of the data have only a minor impact on the results), it is possible to estimate when each vehicle will reach the end of its assumed useful life of 250,000 miles. This projection assumes that the vehicles are utilized at the same level of intensity in the future as they have been to date in their life. (It is understood that vehicles are not retired at precisely 250,000 miles, but for estimation purposes this is a workable assumption.) This then determines the timing and magnitude of the vehicle replacement needs for the current Access-provided fleet of dedicated vehicles.

The results are shown in Figure 9-6 below. As can be seen, a substantial number of vehicles will need to be replaced during the five years after FY 2017, a total of 532 vehicles. In fact, during this entire six-year period approximately 75% (572 vehicles) of the current Access-provided fleet of 757 vehicles will need to be replaced. There are substantial replacement needs in both FY 2019 and 2020, with more than 200 vehicles needing replacement during the 2019 fiscal year. This replacement plan assumes that all current Access-owned dedicated vehicles will need to be replaced by the contractors. Changes in how Access

approaches the issue of the appropriate size of the dedicated vehicle fleet for each contractor could impact these projected vehicle replacement needs.

Figure 9-6 | Vehicle Replacement Requirements for Current Fleet of Access Provided Vehicles

Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita	Total
2017	4	1	25	5	4	1	40
2018	9	14	56	4	6	0	89
2019	48	45	80	19	10	1	203
2020	44	32	22	27	8	1	134
2021	31	5	13	7	3	0	56
2022	29	2	12	6	0	1	50

Finally, and most critically for capital planning, Figure 9-7 below lists the number of vehicles that would need to be purchased each year to ensure Access dedicated vehicles are providing at least 400 passenger trips per month given projected ridership increases, and to replace all vehicles that will reach retirement age by the fiscal year shown. This is the total amount of capital acquisition for vehicles that will be needed each year if Access retains its current approach to estimating vehicle needs.

Figure 9-7 | Total Vehicle Acquisition Needs for Fleet of Access Provided Vehicles

Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita	Total
2017	22	5	33	4	4	0	68
2018	18	22	76	11	12	1	140
2019	58	53	103	26	17	1	258
2020	54	40	48	36	16	2	196
2021	42	13	41	16	13	1	126
2022	39	10	42	17	12	2	122
Total	233	143	343	110	74	7	910

The total vehicle acquisition requirements for Access during the FY 2017-2022 period are the sum of the vehicle replacement needs plus the additional vehicles—compared to each service contractor’s current fleet size—required to serve the projected demand levels for each of these years, as shown in Figure 9-4 and Figure 9-5. The second highest month of ridership was used to estimate vehicle needs each year.

For example, for the Eastern region, Figure 9-4 shows that 237 vehicles are needed in FY 2020 to meet the needs for the second highest month’s ridership volume—assuming the 400 monthly trips to one vehicle benchmark—and that requires 10 additional vehicles compared to the current dedicated fleet size (Access-provided vehicles only). In addition, Figure 9-6 shows that the Eastern region needs to replace 44 of its current vehicles in 2020. Hence a total of 54 new vehicles would be needed for the Eastern region in FY 2020 to provide a comparable level of service as currently.

The overall vehicle requirements are substantial, totaling 910 vehicles over the entire six year period and peaking at 258 vehicles in 2019. In fact, from FY 2018 forward, Access will need to acquire at least 122 vehicles each year to maintain an adequate fleet size, using current benchmarks and approaches to determining fleet size. Alternatives to the current approach, which involve considering service mix, are presented in the following section.

VEHICLE MIX FOR FLEET PLANNING

The vehicles that need to be acquired over the next five years to both replace vehicles that reach retirement age and to expand the fleet to meet increasing demand should largely replicate the current mix of vehicles. There are four types of vehicles that Access’ contractors use, as in Figure 9-8 below, with the passenger capacity and capital and operating cost structures for each vehicle type as shown. As can be seen, the lifecycle and purchase costs of the two most prevalent vehicle types, the minivans and the MV-1s, are relatively comparable, and much lower than the cutaway type vehicles.

Figure 9-8 | Fleet Size, Composition, and Vehicle Lifecycle Costs

Vehicle Type	Current Number	Ambulatory Capacity	Mobility Aid Capacity	Purchase Cost	Fuel Cost over Life	Maintenance Cost over Life	Total Lifecycle Cost
Mini-van	525	4	2	\$50,000	\$46,100	\$50,000	\$146,100
Small Cutaway	39	7	2	\$66,800	\$81,950	\$65,000	\$213,750
Large Cutaway	40	8	5	\$78,000	\$123,000	\$65,000	\$266,000
CNG MV-1	101	3	1	\$60,000	\$37,500	\$40,000	\$137,500

It is assumed that the current fleet mix is relatively appropriate, and that what is needed is to continue to have approximately the same type of mix in the future. Given that nearly 90% of the Access fleet is comprised of smaller vehicles which have comparable purchase and operating costs, this should be a reasonable assumption. It is also assumed that each service contractor’s current fleet mix is relatively appropriate to the operating needs in their service region, and should be maintained as vehicles are replaced or new vehicles for passenger demand increases are acquired.

Based on these assumptions, Figure 9-9 shows how many vehicles of which type should be purchased each year from FY 2017 through FY 2022. Figure 9-10 shows the total vehicle purchase requirements through FY 2022.

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Figure 9-9 | Vehicle Purchase Requirements by Service Provider and Type of Vehicle

	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita	Total
2017							
Mini-van	16	4	25	3	1	0	49
Small Cutaway	0	0	1	0	1	0	2
Large Cutaway	0	0	1	0	2	0	3
CNG MV-1	6	0	6	0	0	0	12
Total	22	4	33	3	4	0	66
2018							
Mini-van	13	19	59	9	2	0	102
Small Cutaway	0	2	2	1	2	0	7
Large Cutaway	0	0	3	1	7	1	12
CNG MV-1	5	1	13	1	0	0	20
Total	18	23	77	12	11	1	142
2019							
Mini-van	42	45	79	20	3	0	189
Small Cutaway	0	5	3	3	3	0	14
Large Cutaway	0	0	4	2	11	1	18
CNG MV-1	16	1	17	1	1	0	36
Total	59	52	103	26	18	1	259
2020							
Mini-van	39	34	37	28	3	0	141
Small Cutaway	0	4	1	4	3	0	12
Large Cutaway	0	0	2	2	10	2	16
CNG MV-1	14	1	8	2	1	0	26
Total	54	40	48	36	17	2	197
2021							
Mini-van	30	11	32	12	2	0	87
Small Cutaway	0	1	1	2	2	0	6
Large Cutaway	0	0	2	1	8	1	12
CNG MV-1	11	0	7	1	0	0	19
Total	42	12	42	16	12	1	125
2022							
Mini-van	28	9	32	13	2	0	84
Small Cutaway	0	1	1	2	2	0	6
Large Cutaway	0	0	2	1	7	2	12
CNG MV-1	10	0	7	1	0	0	18
Total	39	10	42	17	11	2	121

Figure 9-10 | Total Vehicle Purchase Requirements (FY17-FY20)

Total FY2017-FY2022	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita	Total
Mini-Van	168	122	264	85	13	0	652
Small Cutaway	0	13	9	12	13	0	47
Large Cutaway	0	0	14	7	45	7	73
CNG MV-1	62	3	58	6	2	0	131
All Vehicle Types	234	141	345	110	73	7	910

PROJECT FLEET CAPITAL COSTS

Finally, the cost of these vehicle acquisitions can be estimated based on data provided by Access Services. As shown in Figure 9-8, a mini-van costs \$50,000, an MV-1 costs \$60,000, a small cutaway vehicle costs \$66,800, and a large cutaway vehicle costs \$78,000. The total vehicle acquisition costs are shown in Figure 9-11. For the FY2017-2022 period, Access Services will need nearly \$50 million in capital funds for the vehicle acquisitions required to maintain its current level of service if demand increases as is projected by the HDR study.

Figure 9-11 | Total Vehicle Acquisition Costs for Fleet of Access Provided Vehicles

Year	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita	Total
2017	\$1,160,000	\$200,000	\$1,754,800	\$150,000	\$272,800	\$0	\$3,539,617
2018	\$950,000	\$1,143,600	\$4,097,600	\$654,800	\$779,600	\$78,000	\$7,705,618
2019	\$3,060,000	\$2,644,000	\$5,482,400	\$1,416,400	\$1,268,400	\$78,000	\$13,951,219
2020	\$2,790,000	\$2,027,200	\$2,552,800	\$1,943,200	\$1,190,400	\$156,000	\$10,661,620
2021	\$2,160,000	\$616,800	\$2,242,800	\$871,600	\$857,600	\$78,000	\$6,828,821
2022	\$2,000,000	\$516,800	\$2,242,800	\$921,600	\$779,600	\$156,000	\$6,618,822
Total	\$12,120,000	\$7,148,400	\$18,373,200	\$5,957,600	\$5,148,400	\$546,000	\$49,305,717

SERVICE MIX (DEDICATED VS. NON-DEDICATED) FACTORS IN FLEET PLANNING

The data provided by Access to the consultant team make it clear that different service contractors have different approaches to the relative utilization of vehicles providing dedicated service (DS) and non-dedicated service (NDS). Because of how Access structures its service contracts, the service providers have an incentive to develop an optimal service mix of dedicated service versus non-dedicated service. As a result, there are significant differences in both the service mix and the utilization of the dedicated vehicles provided by Access to the providers, as shown in Figure 9-12 below. The size of the DS fleet for each provider has been normalized via the 400 monthly trips per vehicle benchmark, to place all providers on a common measure. As can be seen, SGT, which operates the Eastern region, makes much less intensive use of its dedicated vehicles provided by Access than does MV, the Northern region operator. MV uses its Access-provided vehicles 50% more intensively than does SGT.

Figure 9-12 | Service Mix and Vehicle Utilization by Service Region

Region	DS Trips	NDSP Trips	DSV Utilization per Day
Eastern	44%	56%	5.17 VH per day
West Central	54%	46%	6.89 VH per day
Southern	59%	41%	7.24 VH per day
Northern	68%*	32%	7.77 VH per day
Total LA Basin Region	57%	43%	6.72 VH per day

*FY 2017 for Northern region, all other regions are for FY 2016

The variation among service contractors would be even greater had not MV made a concerted effort during the past year to dramatically increase its use of contracted services, with the percentage of trips provided by its own vehicles declining from 79% to 68% between FY 2016 and FY 2017 to date (July 2016 thru April 2017), and approaching 60% in recent months.

As Figure 9-12 shows, none of the service contractors utilize their DS vehicles for an average of even eight hours per day, and the overall average utilization is less than seven vehicle hours per day. The reason is that all of the contractors are now heavily using NDS vehicles, so they either need fewer Access-provided DS vehicles or are using some significant fraction of them for less than eight hours per day—or both.

These results raise the issue of whether the future allocation of vehicles purchased by Access for the service contractors should be equal, in the sense that they should be based on a criteria that is independent of the actual use of DS vehicles and NDS vehicles by the contractors—such as the 400 monthly trips per one vehicle benchmark—or whether they should be linked more closely to how the contractors actually choose to deliver their service in terms of their respective service mix.

Given how Access compensates its service contractors, they have an obvious financial incentive to use taxis operating in both non-dedicated and semi-dedicated fashion if the net delivered cost of doing so is less than that of a comparable trip delivered via one of its Access-provided vehicles being operated in dedicated fashion. It would appear that for a substantial—and over time, increasing—portion of each contractor's trips, this calculus is favoring NDS provision. Since Access pays the same to the contractor regardless of how the trip is delivered, it is ultimately in Access' interests, as future service contracts can—at least potentially—reflect these economies of the contractors, especially if the contractors are still responsible for the scheduling and dispatching functions and are paid by the trip. At the same time, Access should reassess how much of its capital resources should be allocated to purchasing new vehicles for its contractors if some portion of those vehicles are likely to be under-utilized because of their increasing emphasis on NDS vehicles to deliver service.

This is a particularly relevant concern in view of the fact that Access will need to obtain \$50 million over the next five years to fund vehicle acquisition needs—both for replacement of vehicles and for additional vehicles forecast to be needed for increased demand. If the percentage of trips being delivered by NDSPs are such that the average Access-provided vehicle is being used less than seven hours per day—which is a single driver shift or even less in the case of San Gabriel Transit—then a case can be made that this is not the ideal use of limited capital resources.

It may make more sense to adjust new vehicle allocations to reflect in some manner how the service contractors are utilizing the dedicated vehicles that are being provided to them by Access Services. One option would be to adjust the vehicle replacement requirements by the contractor's vehicle utilization results, with a benchmark of X revenue vehicle hours per day of utilization equivalent to one replacement vehicle. For example, if the benchmark were eight revenue vehicle hours per day and the contractor's utilization rate was 6.4 hours per day, then they would be allocated only 80% as many vehicles as they

were retiring in that fiscal year. Another option would be to provide each service contractor with a baseline number of replacement vehicles—based mostly or entirely on their recent vehicle utilization record—and then allow them to bid on any additional vehicles that Access acquired above this baseline level. All of the contractors could bid on such vehicles, so in concept they would be allocated according to their highest economic value.

How might one of these, or similar, approaches work in practice? A simple example is shown in Figure 9-13, using the vehicle replacement requirements for FY2019 shown in Figure 9-6. Using a benchmark vehicle utilization factor of 7.25 revenue vehicle hours per day—equivalent to essentially a single driver shift deployment per day—the vehicle replacement needs are re-factored to account for the contractors’ actual vehicle utilization. In this example, the Eastern region contractor is automatically allocated only 34 of the 48 Access-provided vehicles being retired from its fleet during FY2019, and the West Central region contractor is allocated 43 of the 45 vehicles being retired from its fleet during that year. The other two contractors would receive their full allotment of replacement vehicles.

Figure 9-13 | Vehicle Utilization-Adjusted Vehicle Replacement Allocations

Region	Replacement Needs	Current DSV Utilization	Utilization Factor	Allocated/ Reserved Vehicles
Eastern	48	5.17 VH per day	0.71	34/14
West Central	45	6.89 VH per day	0.95	43/2
Southern	80	7.24 VH per day	1.00	80/0
Northern	19	7.77 VH per day	1.06	19/0
Benchmarks	192	7.25 VH per day	1.0	176/16

This would result in either of two outcomes. In one scenario, Access would purchase only 176 vehicles rather than the 192 vehicles needed for full replacement, on the premise that the service contractors’ true replacement vehicle needs are the lesser number of vehicles. In the other scenario, Access would still acquire 192 vehicles, but would only allocate 176 of those vehicles “automatically”, in the amounts shown in the rightmost column of Figure 9-13. The unallocated 16 vehicles that Access purchased would be allocated by some other mechanism, such as auctioning to the highest bidder, with the possible option of allowing the service contractor whose vehicle replacement is not being totally fulfilled to obtain some or all of its un-replaced vehicles for an Access-determined “reserve” price prior to any auction process.

This is only one example of how Access could account for differing vehicle utilization practices of the service contractors in its vehicle replacement and allocation process. Multiple other approaches are feasible, using either formula allocation and/or market mechanisms to shape the process. What is important is that Access carefully consider whether it wants to adjust its vehicle acquisition and allocation practices to account for how the service contractors actually utilize the vehicles that Access purchases for the contractors.

10 MANAGEMENT AND OVERSIGHT ASSESSMENT

Fleet Design and Maintenance

The significant increase in both the Access fleet and the taxi fleet since 2014 has put a strain on this department, resulting in the need to draw assistance from the Road Safety group. Besides the plan to include an additional Fleet Analyst position in the FY 2017 budget, other steps can be taken to address this issue:

- The practice of performing safety inspections in the field should be reviewed to ensure that there is no disruption in on-time service. We were not able to discern from inspectors how small or large this disruption might be however.
- The agency should evaluate the option of acquiring radios and MDTs internally in order to achieve potential cost savings and consistency.
- Pending legal review, Access should reconsider activating the SmartDrive audio function. This would enable staff to resolve customer complaints concerning driver conduct; it also will be important in the event of any future litigation.

Operations

Each OSM monitors 75 reservation calls per month. This consumes approximately four days a month. By limiting call reviews to just new reservationists or when there have been problems, OSMs could spend more time on other tasks.

The OSMs conduct quarterly pull-out vehicle inspections, which are also conducted by the Access Safety and Fleet division, in addition to some of the contractors' own inspections. Access should determine whether these multiple layers of inspections are redundant, or whether the content of the inspections is different enough to justify keeping all three inspections. This exploration should be conducted in the context of the overall staffing of OSM functions, which may be deficient given the broad range of tasks for which they are responsible.

The Daily Operations Report (reflecting information from yesterday) should be split into three major time periods to reflect the three major pull-outs. Access should compare each day and time period of the service supply that is planned broken down by dedicated, semi-dedicated, and non-dedicated vehicles per time period, the number of runs that are closed the evening before, the number of runs that are closed because of driver call-outs, and the number of those runs that were covered by extra-board drivers and the ones that were not.

Due to its success in alleviating no-shows and missed trips, Access should consider expanding the designated pick-up location signage program. There are currently 73 signs placed throughout the service area.

Road Safety

The addition of staff in the Fleet Design and Maintenance office should free up the Road Safety group to perform its tasks.

The expanded use of taxis has strained the agency by putting additional work on the Fleet Design and Maintenance group and the Road Safety team. Given that the increased use of taxis will probably not subside until employee driver wages are more competitive, Access needs to bolster its staff that is responsible for taxi-related certification and monitoring activities.

Policy Development and Planning

Some Access managers believe that the agency is weak on long-range planning. This might be resolved with better integration with operations, bringing them into the process earlier.

Managers would like to have daily operating data more readily available. This objective may be met with the new Tableau program.

Access should review individuals who frequently no-show to determine if these individuals' no-shows are associated with subscription trips. If the customer is abusing the standing order program (even to the point of cancelling one leg of the no-show and then requesting a new trip at a preferred but only slightly-different time), Access should consider looking into such instances, and if warranted, revoke the customer's subscription trip, noting that there is nothing in the ADA that requires a system to have subscription service. If Access pursues this, it should revise its no-show policy.

Operations Contractor Procurement

To provide stability and to potentially increase the number of proposers, Access should either (1) procure its own facilities over time; or (2) consider adding contract language that would allow the agency to assume the facility lease if the contract is awarded to another firm. This has been added to a contract that the MBTA recently used to retain a call and control center manager. The concept is fairly straightforward: if, for some reason, a contract ends before the end of a lease, Access would have the right to take over the lease. And, similarly in cases where a contractor owns a facility, the facility is dedicated to Access Paratransit use, and Access has paid for the full cost of a property over time, Access should have the right to use it if the contract ends. The costs and benefits of facilities procurement is discussed in detail in Chapter 8.

The current practice of separating the cost evaluation group from those individuals conducting the balance of the evaluation should be reconsidered. We recommend that the same group of individuals is responsible for all evaluations so that the connection between cost and quality can be better integrated. This would require that the evaluation be conducted sequentially. If Access does not pursue this, it should have at least one or two staff, and/or a consultant, who can bridge the gap between the two evaluations, as information gleaned in the technical proposal informs the cost proposal.

Data Management and Reporting

Access' senior management is very satisfied with the scope and quality of the ATBOS system. It would cost much more to develop an application owned by Access Services, so they perceive no good alternative in the near-term. As more reporting is pushed to Tableau, there may become a point in a few years where ATBOS no longer needs to be the centralized reporting system, but that is not likely in the immediate future. This also presents a good argument for why a common software platform makes sense, so that consolidation of the data via ATBOS is not necessary, and with direct importing of data into Tableau from the common platform. That said, Access should make sure that all of the attributes of ATBOS that it finds

essential or desirable should be a part of that common system. This is explored in greater detail later in Chapter 11.

IT/software Licensing and Support/T1 Lines/Bridges and Transferring Data 800 lines

The Access staff responsible for the various IT functions are all quite competent and generally appear to have adequate capacity to handle their tasks. To the extent that staffing limitations are any sort of concern, they are in the area of data analysis and reporting. The ATBOS system has an enormous amount of functionality, but only staff who understand this system well are able to make effective use of it. The IT organization has made a commitment to move as much analysis and reporting to Tableau as possible, as this is both a more user-friendly application and also includes graphical capabilities not present in ATBOS. However, the key analysis and reporting resource in the IT organization has many responsibilities and has limited ability to spend large amounts of time on development of new Tableau applications.

Invoice Processing

For internal purchases, there is a concern that it takes too many signatures to process a request for purchase. Access should determine whether purchases under a specific dollar threshold can be approved with fewer layers of signatories.

Eligibility Determinations Impact on Ridership

Currently reservationists do not check eligibility at the time of the trip booking. Monitoring is performed by Access staff after the trip is performed. As a result, many riders with restricted eligibility are likely taking trips that they could otherwise take on fixed-route transit. Software utilized by all the call centers is capable of handling restricted/conditional eligibility. The agency should work with provider reservationists to incrementally apply eligibility conditions.

Eligibility should be reviewed for all standing order requests, particularly for those who no-show on a frequent basis, and for those with restricted eligibility. A path-of-travel review should be conducted for individuals requesting standing orders who have barriers as a condition of eligibility to determine if an accessible pathway exists from the point of origin to the nearest bus stop and from the destination bus stop to the customer's destination. The long-time approach in Pittsburgh includes making site visits in the field to rule on each trip; this trip-specific information is then put into the system so that reservations agents can easily identify whether a particular trip being requested by that specific client is eligible or ineligible. In Pittsburgh, this investigation is done up front on the top five trips that an applicant makes (if they are deemed to be conditionally eligible). If a client ends up making another trip frequently, an investigation for this trip is made as well. For current riders who are certified with conditional or restricted eligibility, staff can begin with subscription trips but also include other frequent trips that meet a certain threshold of frequency. Such an investigation process and the development of a path of travel and/or accessibility infrastructure database should be part of this, in order to reduce the number of site visits over time.

Fare Media, Cash, Coupons, Debit/Credit

There have not been any major discussions of changes to the fare payment structure or different approaches—such as mobile ticketing—to fare media. The mobile ticketing approach has particular potential, as it could be implemented as a partial replacement for other payment options and eliminate many cash transactions as well as being much more convenient for riders who have smartphones. A

centralized fare account system, such as the systems in San Jose and Boston, should also be considered, as these systems eliminate the need for any fare media.

Internal Wages

Access's staff shared with the consulting team some sample wages of various internal positions and the difficulty Access has had in attracting appropriately-experienced applicants for those positions. While a detailed wage comparison is beyond the scope of this project, we do recommend that a wage review/analysis be undertaken by a local consulting firm experienced in this area.

11 TECHNOLOGY ASSESSMENT

The software systems used by the six service provider contractors for reservations, scheduling, dispatching and handling customers' ETA calls, reporting, etc. are shown in Figure 11-1. Note that each service contractor is responsible for licensing and maintaining the software they use and not Access.

Figure 11-1 | Paratransit Software Systems Supporting Contractors' Call Center Functions

Region:	Eastern	West Central	Northern	Southern	Santa Clarita	AV
Contractor	SGT	CTI	MV	Global	City/MV	Keolis
Reservations	TSS/5M*		Trapeze**		Trapeze	ADEPT
Scheduling			Trapeze	DDS***	Trapeze	ADEPT
Dispatch	TSS/5M	TSS/5M	Trapeze	DDS***	Trapeze	ADEPT
Customer SDI	TSS/5M*		Trapeze	DDS***	Trapeze	ADEPT
IVR Booking	Yes		No	No	No	No
Web Booking	Available, not being used*		Available, not being used**		Available, not being used	Available, not being used

* SGT and CTI have combined their reservations, scheduling and same-day issue functions at SGT's facilities, using the same staff for both. The dispatch function is performed separately by SGT and CTI dispatchers at the SGT and CTI facilities, respectively.

** Global contracts with MV (in the Northern region) to perform the reservations function for the Southern region. While Southern region customers also call MV for ETA/trip status calls, call takers for MV transfer these call to Global dispatch.

***Scheduled to switch to Trapeze in 2nd half of 2017.

As shown in Figure 11-1, SGT/CTI are also using an IVR system to allow customers to book (and confirm and cancel) trips on-line. None of the other contractors do. And while IVR system has the capability to make confirmation and imminent arrivals calls and texts, the functionality is not being used.

In addition to the technologies listed in the above table, all of the service providers have in-vehicle technology to obtain near real-time vehicle location and to communicate trip manifests to their drivers. These driver applications utilize MDTs for the dedicated vehicles operated directly by the service contractors.

In development is an Access-commissioned Where's My Ride™ (WMR) app that will be integrated into all systems for one customer interface. Like Trapeze Software's MOBI app, this smartphone app will provide the pick-up ETA for a customer's upcoming trip, with up-to-the-minute ETAs adjusted based on the real time actual location of the vehicle to which the trip is assigned. This information will be accessible to most readers in use by customers with visual impairments. Beta testing has been performed and this smartphone app will soon be released for general use by customers. It is hoped that a significant fraction of the user base will download and use this app, with the result being a substantial reduction in ETA/trip status phone requests (and associated hold time) and no-shows.

As a result of the consolidation onto two software platforms of the core technologies used by the service contractors, it is relatively straightforward to assess the effectiveness of these software systems being used. This assessment is based on the dimensions of functionality, efficiency, and effectiveness, with the criteria for each of these dimensions presented below.

Functionality

- Automated retrieval of past trips to streamline booking process
- Flexible handling of subscription trips (many patterns supported)
- Reservations system able to identify fixed route options that could support trip pattern
- Web booking capability
- IVR booking capability
- Fully automated real-time (at point of booking) scheduling
- Customer automatically provided with before and after trip time options if original preferred trip time unavailable
- Batch scheduling in one hour or less
- Incremental batch scheduling and/or schedule re-optimization during day of service supported with appropriate processing time
- Vehicle routing (and estimated travel times) based on realistic link speeds
- Scheduling system can simultaneously consider dedicated and non-dedicated vehicles
- Dispatcher view of real-time status of all vehicles and/or vehicles selected based on variable conditions and factors, including trips behind schedule
- Ability for dispatchers to sort trips and vehicle tours by lateness and other operational factors
- Ability for dispatchers to over-ride scheduling decisions, including switching trips from DVs to NDVs and vice-versa
- Trip reminders (night before trip delivered) via IVR or other automated communications channel
- Customer notification capabilities—pro-active and automated via text message, IVR, and email
- Ability of customer to determine when vehicle is nearing arrival location and/or current vehicle position (map-based interface desirable)

Efficiency:

- Elapsed time (talk time plus after call work time) for reservations agent to accomplish typical trip booking
- Batch scheduling duration
- Duration of incremental batch scheduling/schedule re-optimization
- Duration of time for dispatcher to identify a trip seriously behind schedule and switch trip to another vehicle which can provide more timely service to customer.
- Duration of time for dispatcher to switch trip to another vehicle in generic circumstances
- Driver's ability to have full manifest information needed to accomplish next several trips
- Driver's ability to make minor deviations in manifest to improve operational outcomes
- On-line capabilities to enable consumers to book trips and obtain other information without engaging agents

Effectiveness:

- Productivity of dedicated vehicle operations generated via scheduling system
- Automated assignment of trips to NDVs when doing so will improve productivity
- Ability of scheduling system to generate shared ride vehicle tours for NDVs
- Ability of dispatching tools to minimize on-time performance problems and their impacts

Trapeze PASS

The Trapeze PASS system is the market-leading software application for ADA paratransit systems in the USA, with scores of implementations including many of the larger systems. It includes many optional modules, some of which are used by the Access service contractors, others which are not.

Functionality

Of the 17 functional criteria identified above, the following five are not fully supported by the Trapeze implementation being used by the Access service contractors:

- IVR booking capability—option, not deployed by any of the service contractors
- Customer automatically provided with before and after trip time options if original preferred trip time unavailable—Trapeze provides alternative choices in a preference ordering, and this may not provide alternatives with both a before time and an after time
- Vehicle routing (and estimated travel times) based on realistic link speeds—Trapeze typically uses speed profiles, which vary speeds by time of day but for the entire network, not on a link-level basis
- Scheduling system can simultaneously consider dedicated and non-dedicated vehicles—Trapeze does not explicitly schedule NDVs, but one of its optional modules does identify trips that are good candidates for being assigned to NDVs and allows them to be assigned to NDVs via a dispatch screen
- Ability for dispatchers to sort trips and vehicle tours by lateness and other operational factors—Trapeze does not automatically sort trips and vehicle tours by lateness

Another functional criteria, the use of a web-booking application, is found not to be applicable due to Access' decision to not have separate web-booking platforms for different regions and service contractors. It is anticipated that in the near future Access will commission the development of a common web-booking application (including a smartphone version) that can be used for any of the service regions.

We also understand that Trapeze Software is developing a dynamic scheduling capability for day-of-service optimization of schedules two+ hours ahead, taking into consideration same-day trip cancellations and how each run has progressed so far that day. This functionality falls under the category of proactive dispatching but is being automated.

Efficiency

Of the eight efficiency factors identified, Trapeze appears to have some limitations in the following three areas:

- Duration of time for dispatcher to identify a trip seriously behind schedule and switch trip to another vehicle which can provide more timely service to customers. Trapeze has no specific functionality for identifying the trips that are most behind schedule and moving those trips to another vehicle.
- Driver's ability to have full manifest information needed to accomplish next several trips. Trapeze limits the amount of the manifest it makes visible to the driver.
- Driver's ability to make minor deviations in manifest to improve operational outcomes. Trapeze expects the driver to adhere to the manifest, and the driver application does not easily tolerate deviations.

As noted previously, Trapeze does have on-line tools that can be used by customers to avoid having all booking, ETA/trip status, and customer notification activities go through call center agents, but such tools are not fully deployed by the Access service contractors.

Effectiveness

For the four effectiveness factors identified, Trapeze has some weakness in the following two areas:

- Automated assignment of trips to NDSPs when doing so will improve productivity

- Ability of scheduling system to generate shared-ride vehicle tours for NDSPs

Trapeze does not automatically schedule trips to NDSPs—it identifies good candidates and a dispatcher completes the vehicle assignment process—and it does not generate shared-ride vehicle tours for NDSPs (in contrast to 5M, which clusters trips onto NDSP mini-runs).

TSS Wireless' 5M

The 5M system developed by TSS Wireless, the same company that developed ATBOS, is a paratransit software that was custom developed for San Gabriel Transit and highly tailored to the type of DRT service operated by Access Services. Although used to date only by San Gabriel Transit and California Transit Inc., 5M has many of the same features of long standing products such as Trapeze, RouteMatch, StrataGen, and Ecolane, along with a comprehensive battery of reports where users can set parameters of choice.

We witnessed 5M batch schedule several thousand trips in under one minute. 5M can automatically present to dispatchers the trips most in need of attention. 5M can also automatically schedule trips to both dedicated runs and taxi subcontractors, and has the ability to generate shared-ride vehicle mini-tours for the taxi subcontractors. Moreover, like Trapeze and many of the other software developers, TSS Wireless is currently working on dynamic scheduling optimization.

It is not possible to provide an in-depth assessment of the comparative worth of 5M and Trapeze PASS, as they are used in different service regions whose ridership characteristics and demand patterns are sufficiently diverse that any such comparison is not a true apples and apples test. At the same time, it is clear that the Trapeze software does not have any particular advantages compared to 5M, and that the latter has certain features that appear superior to those contained within the PASS product.

COMMON TECHNOLOGY PLATFORM

With the number of paratransit software products now reduced to two, this raises the obvious question as to whether Access could benefit from having all of the service contractors use a common technology platform for their operations. It also raises the question of whether it would be feasible to have all of the contractors use such a common platform.

There are two possible approaches for all of the service contractors to use a common technology platform. In the first, each contractor uses the platform independently from the others. That is, there would be a standardization on the common software application, with each contractor having its own instance to use it for all call center functions and reporting. Such standardization might generate some value, but the contractors would still operate in relative isolation from one another via a technology perspective, as their systems would not be truly integrated—merely potentially integrate-able.

The second, and seemingly more useful and potentially valuable, approach is to have all of the service contractors use the same technology platform with a common database. In this situation, each service region represents a specific instance of the technology system, but all instances share a common database and their data is, at least in concept, inter-operable.

With a common database, it becomes possible for the software application instance in each service region to be aware of the trips of the other service regions and know when out of region trips were scheduled to be transported to or through each service contractor's home service region. This would make it possible for the scheduling system to link cross-region trips together on a single vehicle tour, reducing the amount of deadheading and empty backhauling. While this objective could also be accomplished by using multiple inter-operable software systems, using a common system by all contractors would reduce complexity and make it easier to achieve such scheduling integration.

That significant value improvement could result from such integration is very clear. The single biggest issue confronting Access' service design is the prevalence of a substantial percentage of cross-region trips and the inefficient and complex operations resulting from how those trips must be handled in a situation of multiple software applications, one per region. Using a common technology platform could be extremely advantageous for overcoming this problem, as that system would know the location of all trips and vehicles, and could assign out-of-region vehicles to appropriate trips. The latter might be trips going to the host region of the vehicle, or simply trips for which the vehicle of interest is the best candidate from a scheduling perspective. In either case, the scheduling system would be able to use vehicles much more flexibly and efficiently than is the case today.

It bears emphasizing that if there were a common technology platform for all of the service contractors, the region system itself might no longer be needed as a service organizing construct but only under service models where customer calls for booking and ETA/trips status calls are centralized. Under these models, service contractors could operate from a relatively small set of operating depots, and the technology platform would be responsible for scheduling vehicles in the most cost-effective manner. This would also streamline the reservations process for what are today cross-region trips, reducing the number of reservations agents needed in all likelihood and thus generating some modest cost savings. Similar economies of scale could be achieved for handling customers' same-day issues if a single system knew where all of the vehicles are—this is the underlying premise of the app-based WMR tool soon to be released. And a single technology platform would simplify the development of a single web-booking application (both smartphone and PC-based), which is a future objective of Access.

If Access were to standardize today on a common platform by selecting between Trapeze and the 5M system, a formal evaluation process should be initiated with well-defined criteria for evaluation. It would be desirable that this occurs very soon, as the transition to Trapeze is in the early stages at Global Paratransit, and the evaluation might well determine that 5M is the preferred platform.

As a case example with obvious similarities to Access, the MBTA in Boston has incorporated different approaches to software over the years. For some context, The RIDE service model migrated from a single turnkey contract to a brokerage service model, to decentralized turnkey contracts. And the MBTA is now pursuing a change to a call center contractor model. Under several years of a decentralized turnkey contractor model similar to Access, four software approaches were pursued. The first was that the contractors were free to use their own software, with software bridges built to download customer/eligibility information and upload service data, much the same as is the case in Los Angeles. The MBTA then opted to obtain a single software for all the contractors, recognizing the inherent benefits of having a single platform; however, it was never clear whether the cause of service issues was the software or the contractors, and there was much finger pointing and a built in excuse if a contractor was not performing well. In the next procurement round, the MBTA turned the responsibility for obtaining the software back to the contractors, but indicated that the contractors once selected had to agree on a single software platform (as the MBTA saw the obvious benefits of a common platform), and they chose ADEPT. In the ensuing years, each of the contractors customized much of the software, as they each had a separate license with StrataGen. Then, in anticipation of moving to a call center contractor model, the MBTA took over the licenses, so that it could better control the technology aspects of the transition – a good decision in view of the myriad technological issues that have already arisen in the transition, especially stemming from the customization. Lastly, once the new service model is fully transitioned and the kinks are worked out, the MBTA intends to go out for bid for a new software system, with much input and evaluative help from the prime user of the software: the call and control center contractor. In this manner, it will essentially be a joint decision, and this should supplant finger pointing.

TELEPHONE ACCESS

Access currently has an approach to telephone service in which each of the six service contractors must provide their own telephone system. There is an 1-800 number that routes customers to the service provider for each region.

However, as discussed earlier, a customer wishing to make a reservation for an inter-region trip will be transferred to the telephone system of the service contractor in order to book the return trip, and that trip will be booked in the other contractor's software system. Because of the relatively high percentage of cross-region trips, many customers are transferred from one service contractor's phone system to that of another service contractor. For the customer, this means (potentially) double the hold time and having to convey to the call taker of the second contractor much the same information as for the initial trip. There is also the possibility of being dropped from the call, which would mean dialing in again....to that second carrier. There is also a cost (albeit relatively modest) associated with these transferred phone calls.

The possibility exists for one cloud-based phone system to support all of the call center operations rather than the current system of one phone system for each service contractor. In such a scenario, Access Services would be responsible for the telephone system, or it would hire a third party company whose business is the provisioning and maintenance of such cloud-based multi-location phone systems.

The move to a single, centralized telephony platform is not essential in the immediate term. The current provider-focused system works reasonably well, and the move to a single telephony platform will not generate substantial benefits unless it is associated as well with a different approach to service regions and the relationship of providers to such regions. Today, all key data elements from each of the provider's telephony systems (their ACD data) is transferred on a daily or more frequent basis to a central data repository at Access headquarters. It can be stored and analyzed in this data repository, and that is in fact what occurs.

Moreover, to the extent that any of the service provider's technology systems currently rely on having access to their own telephony data (ACD data) for other purposes, such as localized IVR solutions (rather than third party cloud-based IVR solutions) meant to interface directly with a local database that contains key data elements needed by the IVR-based booking process, then systems would need to be re-designed to obtain access to data stored in the cloud-based platform. This would probably be disruptive to the current IVR system used by SGT and its affiliated companies.

At the same time, if the current service model is retained, it may make sense for Access to begin planning for a future in which there is only a single phone system hosted in the cloud, as that approach will provide the most flexibility and functionality for the role of the phone system in the overall technology solution. It should be emphasized, however, that phone system integration does not appear to be a high priority for the current service setup. Only if the services were more integrated vis-à-vis the cross-region trips would a more integrated telephone system be a clear immediate need. If, on the other hand, all customer calls would be routed to a centralized call center, many of the above issues are addressed.

ACCESS' TECHNOLOGY AND DATA COLLECTION SYSTEMS

Access and its service contractors have made substantial investments in technology and data collection systems, with noteworthy results. These include:

- the ATBOS analysis and reporting system, which is very impressive in its functional depth and breadth
- the new Where's My Ride application developed by IT Curves, soon to be released to the public
- the comprehensive data repositories for both telephone system data (from the ACDs of the service contractors phone systems) and the reservations and operations data that underpins ATBOS

- the Tableau analysis/reporting tool that in-house data analysts are using to develop strong analytic reporting capabilities for Access Services
- the SmartDrive in-vehicle camera-based monitoring and reporting system now installed in all dedicated vehicles used by the service contractors

With respect to our assessment of the technology and data collection systems used directly by Access Services (not including the technology systems used by the service contractors), the following specific observations appear to be relevant.

First, Access has put in place a system in which all aspects of the operation are data driven. This is an achievement that should not be under-estimated, particularly given the heterogeneous nature of the service contractors' reservations and scheduling systems and telephone systems. A very substantial amount of data is being marshalled together from multiple technology platforms, and then used to inform assessments of how the service is performing. The impressive-looking Tableau charts and graphs produced by the in-house data analysts—themselves a testament to Access' commitment to being a data-driven entity—are only possible because of the focus on centralization of data and access to data that is apparent in interviews with Access staff.

Second, Access has wisely insisted upon common technologies for key functions—notably the SmartDrive vehicle monitoring system—and has been willing to sponsor the development of systemwide software applications tailored to its needs, such as the Where's My Ride app, when an appropriate off-the-shelf solution did not exist. A common web-booking application would represent another important move in this direction. Technology solutions tailored to an organization's specific needs and objectives typically produce improved results relative to off-the-shelf products, but an organization must have confidence in its ability to manage the development of such systems in order to achieve the benefits. Access has successfully accomplished this and would be well-advised to continue on this path.

Third, Access has been willing to utilize best of breed technology solutions irrespective of their origins. The ATBOS reporting and analysis system is a very impressive piece of technology, with functionality not found in anything else in the ADA paratransit software market. Although it is produced and maintained by a small company, Access has embraced it as the most appropriate solution for its needs, and has reaped the rewards of having an uncommonly comprehensive and high quality solution to its operational reporting and analysis needs. While there is some concern about the licensing costs associated with this solution, Access would be well-advised to recognize the value that their relationship with the technology provider has generated for the agency, and focus on creative ways to continue to take advantage of this asset.

Finally, Access should continue to invest in its in-house people capabilities for data management, reporting, and analysis. The talent that the agency has assembled for data management and data analysis is uncommon and of excellent quality, and represents a very wise strategy for sustained organizational and system performance. The domain expertise acquired by the talented technology and data science professionals that Access employs will provide the agency with increasing value over time, as data analytics skills become blended with increasing sophistication of domain knowledge about this large, complex, multi-organizational transportation enterprise. Visually impressive Tableau reports are only the surface manifestation of the virtuous cycle that comes from making these types of people investments; the real pay-off is in what the analytic reports can reveal about operational performance with a level of analytic sophistication that is virtually impossible to achieve without serious domain expertise. At the same time, the technical capabilities of these staff members are vital to Access' future, and the agency needs to continue to engage people of the caliber of its younger generation of technical staff.

12 FINANCIAL ANALYSIS

The recent history of expenditures for Access Paratransit operations has been summarized and combined with a forecast of paratransit ridership to create a financial projection. The purpose of this projection is to serve as a baseline for analysis of proposed policy and service changes. In this case, “paratransit operations” includes all expenses connected directly or indirectly with provision of paratransit service. It does not include the cost of ADA eligibility screening, Access Services activities as CTSA, or general administration.

Total actual expenditures and passengers for the five years ending with Fiscal Year 2016, along with budgeted expenditures and expected passengers for FY 2017, are shown in Figure 12-1, and supporting detail is given in Figure 12-2 and Figure 12-3.

Figure 12-1 | Paratransit Operating Costs Trend

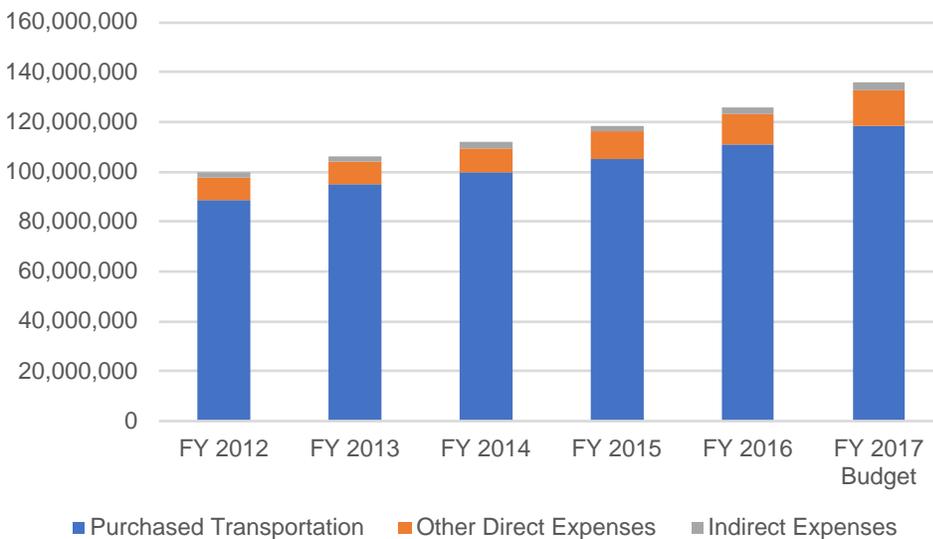


Figure 12-2 | Access Operation Costs and Passengers - FY12-FY17

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017 (Budget)
Total Cost of Paratransit Operations	\$99,549,680	\$106,228,138	\$111,874,623	\$118,179,282	\$125,615,887	\$135,935,408
Annual Increase		6.7%	5.3%	5.6%	6.3%	8.2%
Passengers (total boardings)	3,275,021	3,481,204	3,794,923	4,092,766	4,334,872	4,638,105
Annual Increase		6.3%	9.0%	7.8%	5.9%	7.0%
Cost per Passenger	\$30.40	\$30.51	\$29.48	\$28.88	\$28.98	\$29.31
Annual Increase		0.4%	-3.4%	-2.1%	0.4%	1.1%

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Figure 12-3 | Access Paratransit Operations Expenditures History

	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2017 (Budget)
PARATRANSIT OPERATIONS - DIRECT COST						
Purchased Transportation Services - Regular Trips	88,600,007	94,170,842	98,851,383	104,187,122	110,082,423	113,230,211
Free fare	included in above					3,738,619
Fuel Surcharge				-398,898	-867,883	74,419
Purchased Transp. Services - Adults With Children	0	0	41,057	190,471	279,351	
Purchased Transp. Services - Access To Work	77,420	651,174	967,231	1,061,688	994,280	1,347,407
Purchased Transp. Services - Out of Service Area					335,379	
Rancho Los Amigos Shuttle						110,400
Communications - Telephone/Data Transmission	1,373,850	1,584,488	1,691,232	1,824,902	1,916,143	1,892,010
Phone & Comp. System Maint./License & Consulting	1,126,971	1,109,242	1,116,942	1,226,860	1,209,891	1,542,941
Salaries & Benefits - Cust Svc & Compl. Resp.	748,930	622,124	1,242,119	1,355,418	1,398,911	866,244
Shuttle Service - MTA Elevator Maintenance	582,488	558,670	4,390	12,987	8,585	75,000
Contracted Call Center		300,980	589,962	760,906	1,096,933	1,200,000
OMC Weekend and Holiday Services		54,000	85,349	115,449	87,856	129,000
Vehicle Cost - Direct	97,824	11,589	110,688	181,119	13,745	292,000
Comm. Events & Materials-Safety Incentive Prog	63,649	89,064	77,885	6,994	12,957	20,000
Office Rent	180,835	178,518	138,541	117,216	131,940	127,377
Insurance - Commercial	4,214,418	4,531,526	4,369,437	5,076,693	6,241,997	7,873,587
Travel & Conference	5,534	1,440	1,944	9,511	1,350	3,470
Other Professional Expense	94,735	144,389	73,799	11,241	20,630	196,460
Integrate Access Services to 511 (LA SAFE)	125,340	18,716	11,790	6,923	5,767	
Office Supplies	6,733	5,865	6,581	7,153	5,672	9,300
Volunteer Driver Program	0	0	0	0	0	2,000
Security Contract - Metro/LASD	175,512	170,324	171,318	200,000	200,000	200,000
Total - Paratransit Operations - Direct Cost	97,474,246	104,202,951	109,551,646	115,953,756	123,175,926	132,930,445
PARATRANSIT OPERATIONS - INDIRECT COST						
Salaries & Related Benefits - Operations	1,420,344	1,404,722	1,677,466	1,521,509	1,820,758	1,673,062
Communications - Telephone & Data Transmission	43,951	43,813	44,997	65,979	60,854	64,880
Other Professional Expense	45,832	11,616	50,719	870	510	400,000
Vehicle Costs - Indirect	35,762	44,501	53,570	77,731	101,281	112,000
Customer Satisfaction/Free Fare Phone Survey	54,800	34,900	13,622	28,508	300	0
Studio Design/Marketing Services	119,311	85,986	61,167	130,705	12,288	177,000
Equipment/Other Rental	0	872	0	0	0	9,000
Office Rent	113,924	96,296	140,260	151,644	117,528	118,681
Insurance - Commercial	15,519	16,961	17,485	21,843	27,242	26,030
Travel and Conference	8,405	11,207	25,648	16,154	18,300	27,000
Office Supplies	6,311	5,383	6,873	7,630	5,940	10,030
Community Events and Materials	55,891	79,280	100,123	45,032	132,001	128,700
Publications/Printed Materials - Riders Communication	106,279	119,737	85,409	102,021	100,212	144,000
Postage/Mailing	47,334	67,981	43,718	53,915	40,641	112,500
Professional Memberships	1,769	1,932	1,922	1,984	2,106	2,080
Total - Paratransit Operations - Indirect Cost	2,075,434	2,025,187	2,322,977	2,225,526	2,439,961	3,004,963
Total - Paratransit Operations Cost	99,549,680	106,228,138	111,874,623	118,179,282	125,615,887	135,935,408

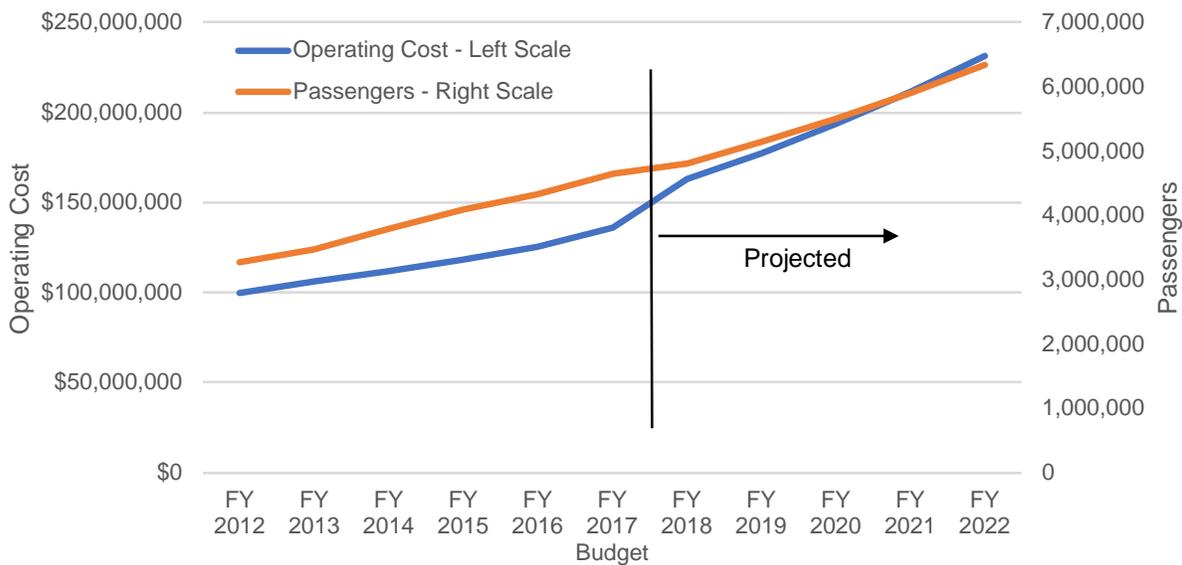
Looking forward, the baseline projection does not attempt a granular analysis of each component of operating cost. In the next phases of the project, this kind of detail can be added based on input from Access Services. Based on the recent history of steady cost per passenger, and the results of the most recent procurement (for West Central service), future year costs are based on the average cost per passenger of the past three years plus 2% per year, with an adjustment for one source of added cost that is known. That is the cost of increased driver compensation as required to comply with minimum wage laws, and to ensure a stable driver work force in face of increased competition from other employers. In its report to the Board recommending award of a new contract for service in the West Central region, Access staff calculate that the fully loaded rate per trip will increase from its current level of \$36.34 to \$42.45, an increase of 16.8%. The increase is due to driver compensation and some added contract requirements, “especially in the areas of information technology/systems, key personnel and road supervision.” These will presumably affect all service contracts going forward. We have assumed that the driver compensation changes will need to be incorporated into the other service contracts through amendment.

The projected operating costs shown in Figure 12-4 use the following assumptions:

- Cost per passenger, before driver compensation adjustments, will increase by 2% per year over the average for the past three years
- The cost of purchased transportation will increase by 17% of the budgeted amount for FY 2017
- Annual passengers will be as forecast by HDR in its February 2017 report.¹²

Figure 12-5 provides supporting data.

Figure 12-4 | Projected Operating Costs and Passengers



¹² HDR, Inc., Passenger Demand Forecasting FY2017 – FY2026, February 23, 2017

Figure 12-5 | Detailed Projected Operating Costs and Passengers (FY18-FY22)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Total Cost of Paratransit Operations	\$163,043,181	\$177,570,820	\$193,724,621	\$211,614,808	\$231,211,246
Annual Increase	19.9%	8.9%	9.1%	9.2%	9.3%
Passengers (total boardings)	4,799,000	5,137,000	5,508,000	5,913,000	6,349,000
Annual Increase	3.5%	7.0%	7.2%	7.4%	7.4%
Cost per Passenger	\$33.97	\$34.57	\$35.17	\$35.79	\$36.42
Annual Increase	15.9%	1.7%	1.7%	1.8%	1.8%

FINANCIAL PERFORMANCE MEASURES

In addition to tracking cost per unit of service, it is possible to track measures of administrative cost. For example, it would be possible to track administrative cost per trip or the percentage of total costs due to administrative activities. Tracking one of these measures to monitor change over time might be reasonable. However, comparing performance on such measures with operators in other cities is of questionable usefulness or meaning.

Many agencies do not report certain administrative costs as paratransit expenses, lumping them instead into the agency's much larger transit expenses. In very large agencies, costs of general administration, office space, legal services, accounting, and even information technology support, may be considered part of general overhead and not allocated to paratransit. In Chicago, the transit provider, Pace, is not responsible for conducting ADA paratransit eligibility screening; instead the regional oversight body, the Regional Transportation Authority, performs this function at no cost to Pace.

At agencies that use some form of brokerage, many administrative functions are performed by the broker and may be reported as operating costs. This issue would affect Oakland/East Bay and Pittsburgh. In the case of Pittsburgh, it is also important to note that the system is coordinated, with ADA paratransit trips representing only a portion of the trips that are served through the brokerage.

At Access Services, which is a stand-alone paratransit organization, all of these costs have to be recognized in the accounting of paratransit costs.

Finally, even if all accounting issues could be resolved, there is really no way to determine the right level of administrative costs. As long as service is contracted, a robust administrative function will be needed to ensure good use of taxpayer funds and quality service. It is entirely possible to put too little effort into administration, so that contractors are not well supervised, reporting issues are not resolved, and customer complaints are not well investigated. Some agencies do not even have a distinct paratransit customer service function, instead delegating this entirely to contractors or relying on the general transit customer service function. These practices can result in very low administrative costs, but that is not necessarily a good thing.

The right level of administrative effort will also depend on the service model in use. Access Services contracts with multiple contractors for good reasons, and is able to achieve very favorable overall efficiency in a difficult-to-serve region. But this service necessarily entails higher administrative costs than a simpler, single-contractor service as used at many other transit systems.

13 ALTERNATIVE SERVICE MODEL STRUCTURES ASSESSMENT

We have identified six service model alternatives – some very small changes and others providing a more significant change – that address some or all of the key issues identified in Chapter 7. Chief among these issues are service inefficiencies that are associated with deadheading, and the customer inconvenience associated with booking inter-region trips. All of the alternatives involve some kind of change to regional boundaries and/or how inter-region trips are provided. Given the physical separation of the Santa Clarita and Antelope Valley regions and the continued need to utilize transfers in serving these trips, our assumption is that the service delivery in these two regions will function much as they do now. Therefore, the alternatives considered all focus on service in the LA Basin. Prior to discussing each of the alternatives, we present an analysis of inter-region trips to better understand the possible reduction in revenue vehicle hours that might be achieved by reducing the number of inter-region trips.

INTER-REGION TRIP ANALYSIS

The potential savings from several alternatives were estimated through analysis of data from October 2016 that included all 237,644 weekday trips, of which 223,312 trips (94%) originated from the four regions in the LA Basin. The October data for each trip included origin and destination region, provider, pick up and drop off date and time, vehicle number and type, and trip length. Figure 13-1 shows the number of weekday trips by region of origin and region of destination. In all, 31% of weekday trips went between regions. As shown in Figure 13-1, the West Central region had the highest percentage of weekday trips going to other regions (60%), presumably because customers traveling into the West Central region from all of the other regions require return trips. But, of the four regions in the LA Basin, the West Central region also has the fewest trips originating in it.

Figure 13-1 | Inter-region and Intra- Regional Weekday Trips (October 2016)

Pick Up Region	Drop Off Region						Total Trips	Percent of Trips	Trips to Other Regions	Pct. to Other regions
	Eastern	West Central	Southern	Northern	Antelope Valley	Santa Clarita				
Eastern	42,147	6,705	7,336	4,884			61,072	26%	18,925	31%
West Central	6,159	14,635	11,616	3,855	1	1	36,267	15%	21,632	60%
Southern	6,872	11,773	58,386	1,857			78,888	33%	20,502	26%
Northern	4,795	4,757	2,306	35,224	1	2	47,085	20%	11,861	25%
Antelope Valley		1		350	11,033	6	11,390	5%	357	3%
Santa Clarita				205		2,737	2,942	1%	205	7%
Total Trips	59,973	37,871	79,644	46,375	11,035	2,746	237,644	100%	73,482	31%

Added Revenue Vehicle Hours due to Inter-region Trips

A statistical analysis, focusing on trips within the LA Basin, was conducted to determine how the total amount of time each vehicle was on the road each day was related to the following statistics for each vehicle each day:

- the number of trips provided
- the number of inter-region trips
- the number of wheelchair trips
- the number of group trips (multiple people picked up or dropped off at one destination)
- the average trip length

All of these factors were found to be highly significant. The analysis shows how many extra hours were added to each particular inter-region trip. As shown in Figure 13-2, these inter-region penalties range from a low of 0.13 additional hours for a trip from the Southern region to the West Central region, to a high of 0.95 additional hours for a trip from the Northern region to the Southern region.

Figure 13-2 | Added Vehicle Hours per Inter-Region Trip

Pick-Up Region	Drop Off Region			
	Eastern	West Central	Northern	Southern
Eastern		0.52	0.45	0.54
West Central	0.57		0.69	0.43
Southern	0.43	0.13	0.92	
Northern	0.41	0.37		0.95

Potential Reduction in Revenue Vehicle Hours

Applying these per-trip inter-region penalties to the number of weekday trips of each type gives an estimate of the number of vehicle hours that could theoretically be saved if inter-region trips had the same

productivity as intra-regional trips of similar length. The result, shown in Figure 13-3, is an estimate that nearly 33,000 revenue vehicle hours (RVHs, defined as first pick-up to last drop-off) could theoretically have been saved if there were no inter-region penalty. This would have been approximately 14% of the total RVHs operated in an average month in FY 2016.

Figure 13-3 | Potential Reduction in Revenue Vehicle Hours per Month

Pick Up Region	Drop Off Region						
	Eastern	West Central	Southern	Northern	Total Hours Saved	Total Hours Operated	Pct. Savings
Eastern		3,464	3,994	2,218	9,676	57,520	17%
West Central	3,526		4,971	2,667	11,165	38,927	29%
Southern	2,979	1,499		1,716	6,194	74,389	8%
Northern	1,959	1,768	2,189		5,916	48,380	12%
Total					32,951	230,359	14%

In practice, it is likely that only some of the theoretical savings could be realized in any actual method of operation. A key limiting factor is the daily tidal imbalance in flows between regions, especially in and out of the West Central region, that is analyzed in the discussion of Alternative 3 below. Based on this imbalance, the theoretical savings are reduced 50% for trips in and out of the West Central region and by 25% for other trips, giving the likely estimated savings shown in Figure 13-4. By far the greatest savings is the 14% associated with trips with pick up locations in the West Central region. These are predominantly afternoon trips with destinations in all of the other regions. The overall estimated savings would be about 9%.

Various components of the reductions estimated here are used in the analysis of Alternatives 4, 5, and 6 below.

Figure 13-4 | Likely Estimated Reduction in Revenue Vehicle Hours per Month

Pick Up Region	Drop Off Region						
	Eastern	West Central	Southern	Northern	Total Hours Saved	Total Hours Operated	Pct. Savings
Eastern		1,732	2,996	1,663	6,391	57,520	11%
West Central	1,763		2,486	1,334	5,582	38,927	14%
South	2,234	749		1,287	4,271	74,389	6%
Northern	1,469	884	1,642		3,995	48,380	8%
Antelope Valley						9,081	
Santa Clarita						2,063	
Total					20,239	30,359	9%

ALTERNATIVE SERVICE MODELS

The six service model alternatives that were developed to address the key issues (Chapter 7) are:

- Alternative 1: Revised Service Region Boundaries
- Alternative 2: Revised Number of Service Regions
- Alternative 3: Targeted Inter-region Operation

- Alternative 4: Core Overlap Area
- Alternative 5: Centralized Call Center
- Alternative 6: Centralized Call and Control Center

The alternatives are ordered based on the level of change, with the alternative service models requiring the simplest changes at the top of the list, and the alternatives that require more complex changes at the bottom of the list. Each of these is described and analyzed below.

Alternative 1: Revised Service Region Boundaries

The current region boundaries would be revised while maintaining the current number of regions and contractors, and current operating methods. These boundary changes would be intended to reduce the number of inter-region trips.

Analysis

Our analysis looked at the current origins and destinations of all trips within the LA Basin in the month of October 2016 to better understand whether trip patterns suggest that small boundary changes could result in fewer inter-region trips. The Antelope Valley and Santa Clarita regions were not included, since their boundaries are fixed by geography and are separated from the other Access regions.

Figure 13-5 through Figure 13-8 on the following pages show the results of this analysis. There is one map per region. The map for each region shows the drop off locations for all trips that originated at a customer's home address in that region. To illustrate how these maps relate to the analysis, consider Figure 13-6, showing trips that originated at a customer's home address in the Southern region. There is a concentration of drop off locations in the West Central region just over the boundary. Moving the boundary between the Southern and West Central regions slightly northward would turn these inter-region trips into intra-region trips. However, consulting Figure 13-7, which shows trips that originated at a customer's home address in the West Central region, we see that there are also numerous internal West Central trips that this same boundary change would turn into inter-region trips. There are similar patterns on all the region boundaries, except the boundary between the Northern and West Central region, and in this case there are few trips to places near the boundary. As a result, there are no cases where a minor boundary change would yield an obvious net reduction in inter-region trips.

Figure 13-5 | Home-Based Trip Drop-Off Locations – Eastern Region

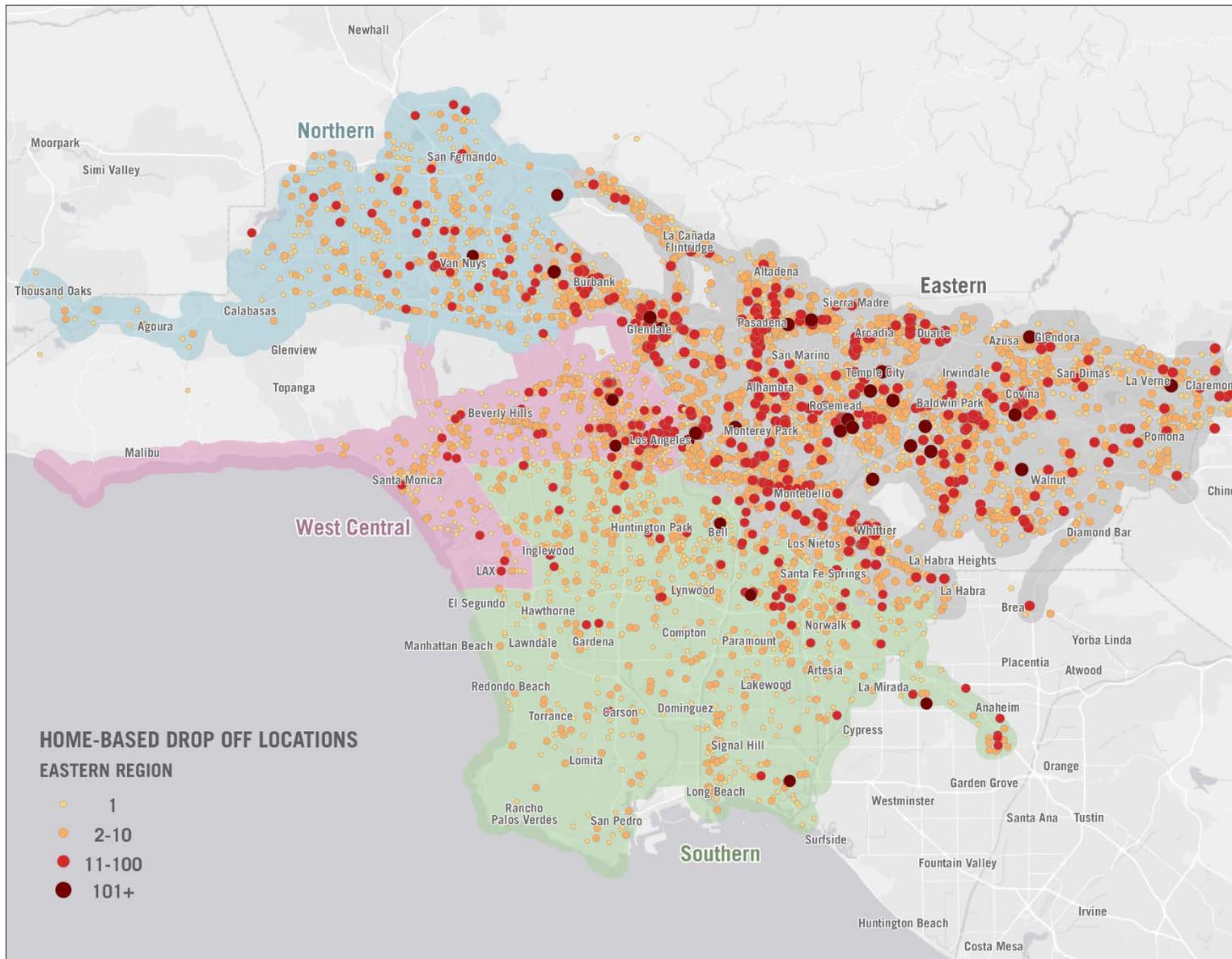


Figure 13-6 | Home-Based Trip Drop-Off Locations – Southern Region

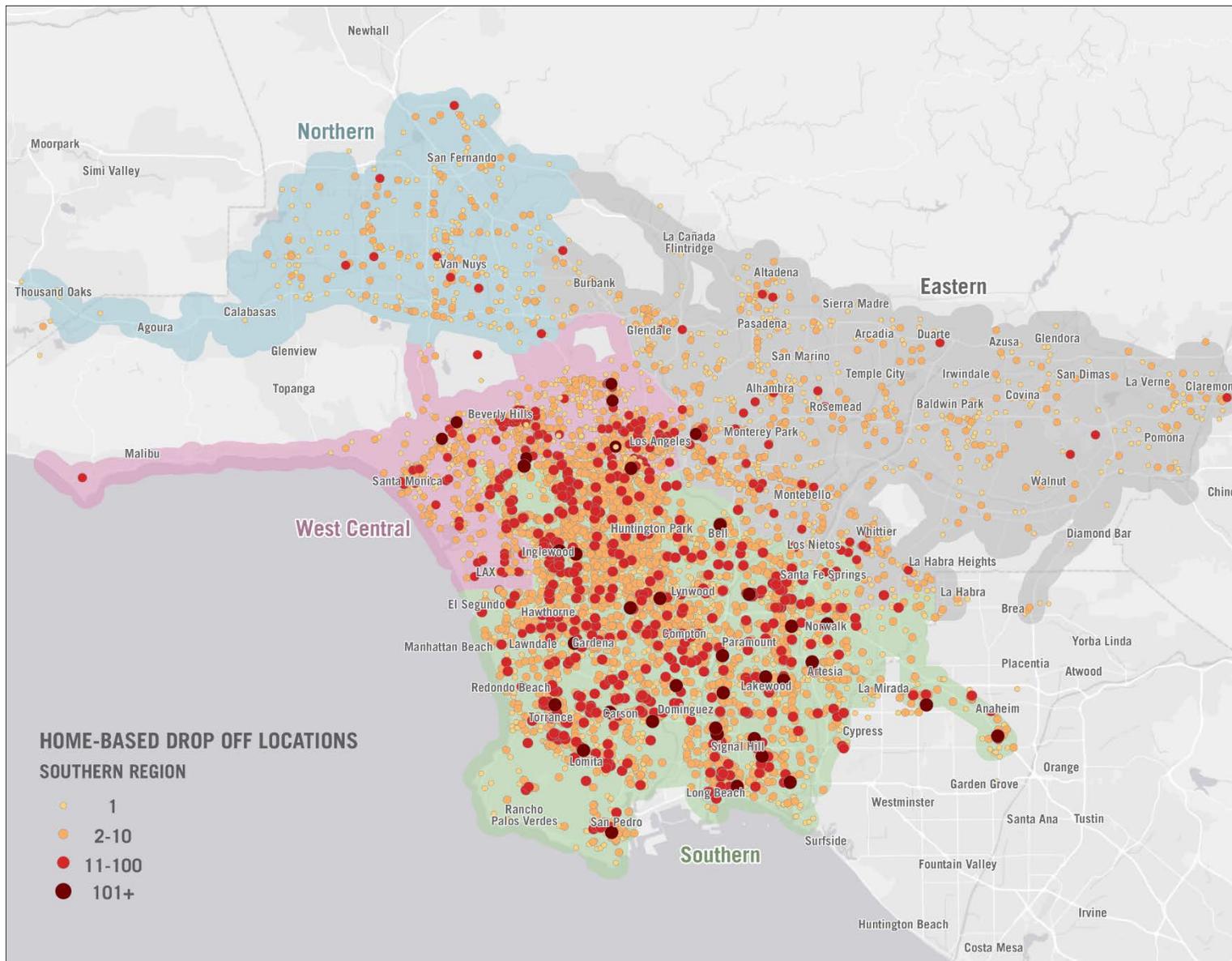


Figure 13-7 | Home-Based Trip Drop-Off Locations – West Central Region

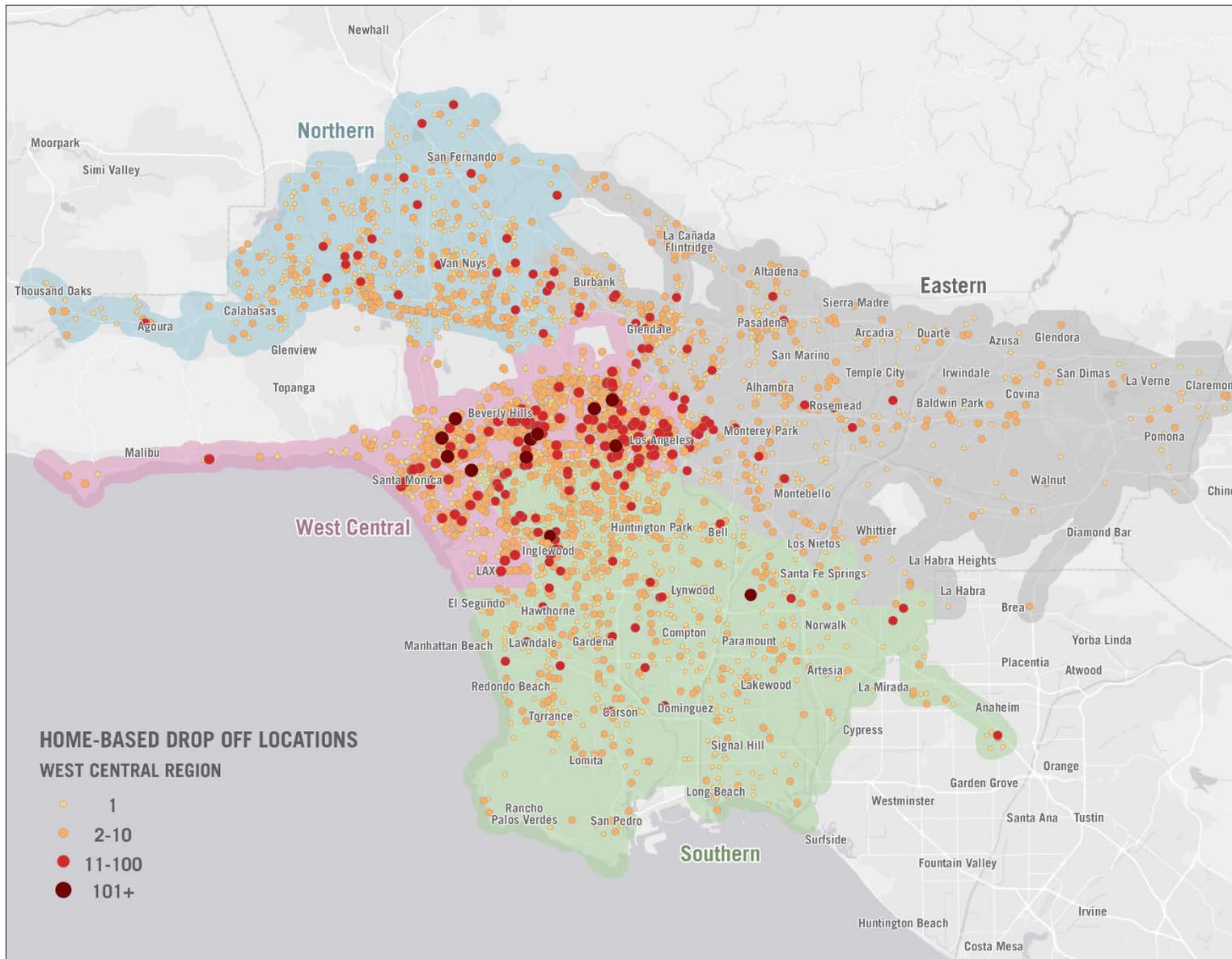
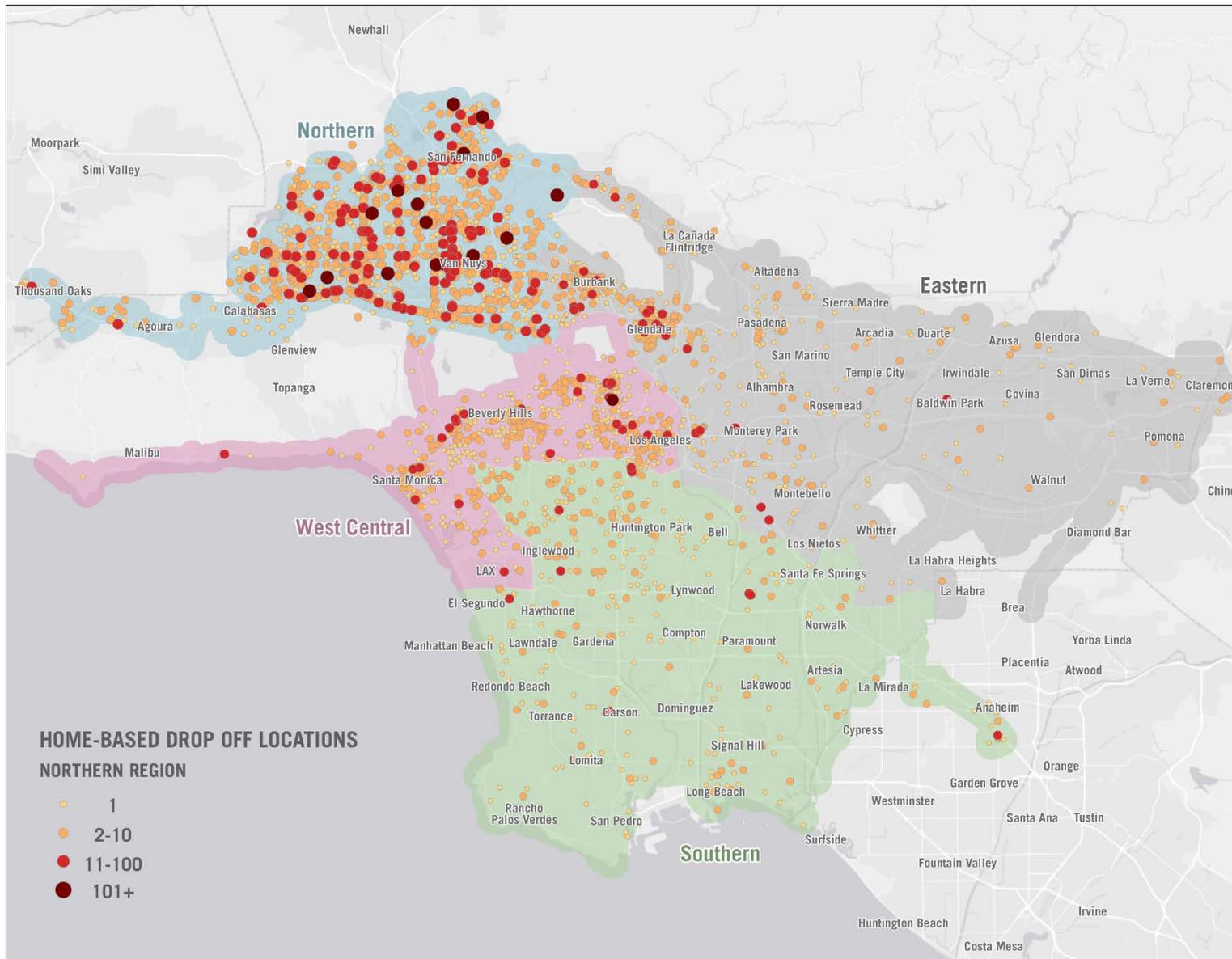


Figure 13-8 | Home-Based Trip Drop-Off Locations – Northern Region



Alternative 2: Revised Number of Service Regions

This alternative maintains the general service model in place, but replaces the four regions of the LA Basin with three larger regions or five smaller regions.

Analysis

Just as for Alternative 1, this analysis looked at trip origins and destinations to determine whether merging or subdividing regions would result in increased service efficiency. In the case of five smaller regions, any service efficiency gains would need to be weighed against the administrative cost to oversee one more service contractor. In the case of three larger regions, the reduction in oversight costs resulting from one less contractor would be added to any service efficiency gains.

Alternative 2A: 3 Regions

Reducing the number of regions would most likely involve eliminating the West Central region, since there is no obvious way to avoid having Northern, Eastern, and Southern regions. Either the entire West Central region would be merged with another region, or it would be divided among multiple regions. The first would create an unworkably large operation, while the second would create a large number of new inter-region trips. The only realistic way to reduce the number of regions would be if multiple contractors serving other regions shared the work of serving the West Central area. This is the concept that is explored as Alternative 4: Core Overlap Area.

Alternative 2B: 5 Regions

Increasing the number of regions would inevitably create many more inter-region trips. The only reason to consider this alternative further would be if one of the existing regions is considered unworkably large, and we did not get that impression from any of the site visits.

Alternative 3: Targeted Inter-Region Operation

In Alternative 3, the current regions and operating methods would remain unchanged, except that all of the contractors would carry trips both going to and returning from selected **high-volume destinations** in neighboring regions. In the case of destinations in the West Central region, which is relatively small in area, these high-volume destinations might be anywhere in the region. In the case of the other regions, high-volume destinations would most likely be limited to locations near the regional boundaries.

For inter-region trips to these destinations, call-takers would not transfer return trip requests to another contractor; instead, the call-taker would take both legs of the trip and both legs of the trip would be served by the home carrier. This alternative is motivated by idea that the volume of trips to and from these locations may allow for opportunities to avoid deadheading, both returning after an out-of-region drop off and going to pick up an out-of-region return. Also the number of transferred calls would be reduced.

Analysis

Since the selected destinations would only be selected if trip-pattern analysis showed that sufficient deadhead-reducing opportunities existed, implementing this alternative would, in principle, be at worst harmless. We have not yet attempted a location-by-location examination of potential destinations.

One key factor that would limit deadhead-reducing opportunities is the imbalance between the timing of trips in and out of the West Central region. This same issue would affect all of the alternatives considered from here on. Figure 13-9 through Figure 13-11 show the average weekday trips in and out of the West Central region in October 2016.

Figure 13-9 | Weekday Trips To/From West Central Region and Southern Region

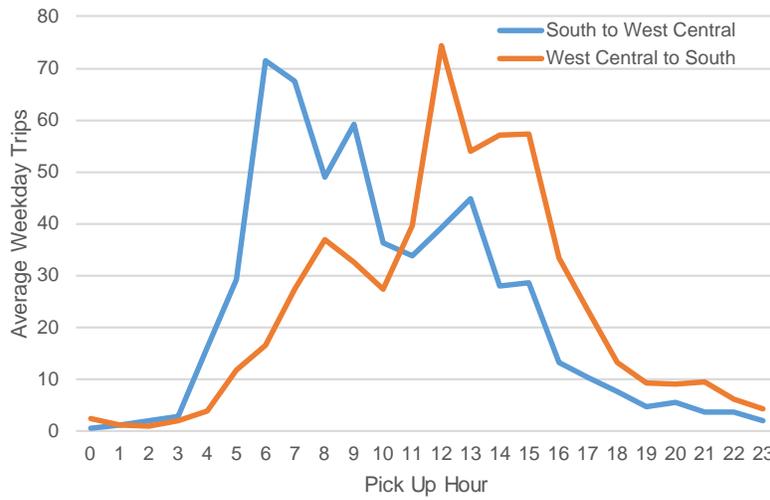


Figure 13-10 | Weekday Trips To/From West Central Region and Eastern Region

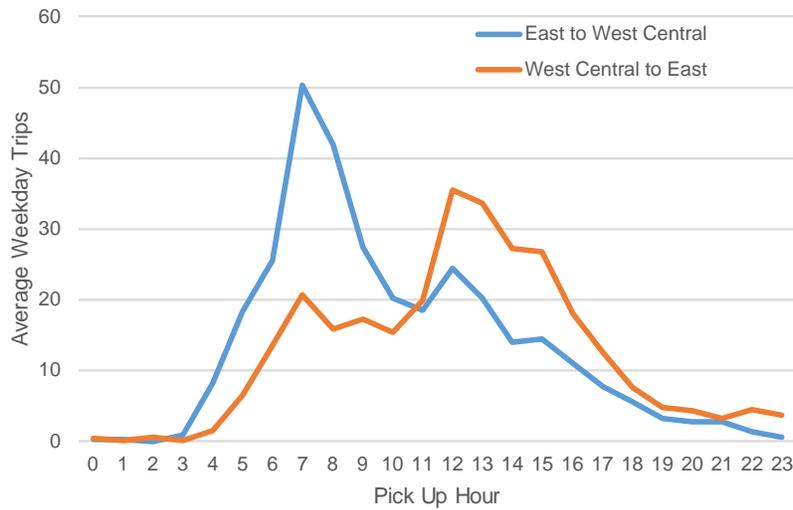
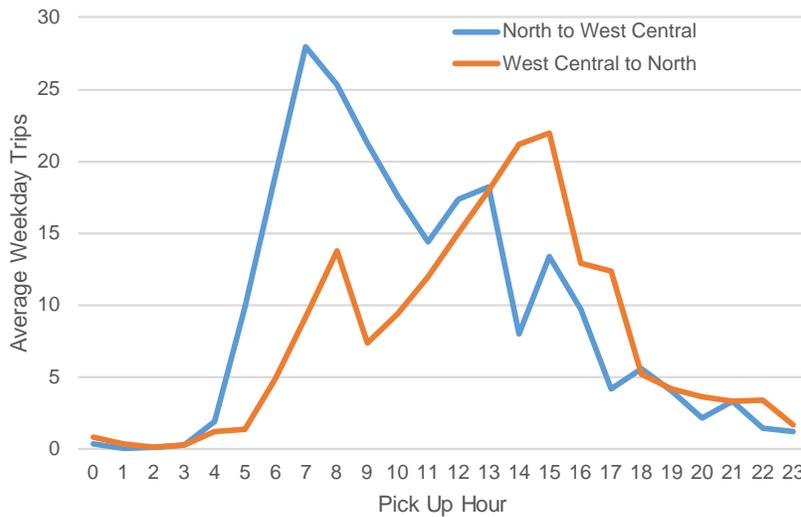


Figure 13-11 | Weekday Trips To/From West Central Region and Northern Region



In general there are more trips into the West Central region in the morning and more trips going out in the afternoon and evening. This is similar to the imbalance in commute flows that fixed-route transit service planners must address, and that typically reduces the productivity of transit services. In fixed-route transit service it means that buses and trains are typically less full in the reverse commute direction than in the primary commute direction. For Access Paratransit, it limits opportunities to find productive work for each vehicle after dropping off an inter-region trip in the morning, or on the way to pick up an inter-region trip in the afternoon or evening.

Examining the trip volumes hour-by-hour, the number of trips in the low-volume direction is typically about 67% of the number of trips in the high-volume direction. As result, at best 67% of inter-region trips could be paired with a similar trip in the other direction. In practice, opportunities would be further limited by mismatch of locations. For example, after a SGT vehicle drops off in the West Central region, there might be trips going back to the Southern region during the same time period, but no trips leaving from any place near the drop-off location.

Flows between other regions, South – North, East – South, and East – North, are much more balanced. Before considering location issues, on the order of 90% of these inter-region trips could be paired with a similar trip in the other direction.

Note: Based on this analysis, a reduction factor is applied to the calculations of theoretical productivity improvements in all of the remaining alternatives. For trips in and out of the West Central area a reduction factor of 50% is applied. For other region pairs a reduction factor of 75% is applied (i.e. a 25% reduction in potential savings). This is the basis of the “Likely Estimated Vehicle Hour Savings” in Figure 13-4.

Alternative 4: Core Overlap Area

This alternative involves creating a Core Area circumscribing the most frequented common destinations within and near the West Central region (as suggested by the trip data). Access would retain three – and not four – contractors to serve the LA Basin. One each would be assigned to the Northern, Eastern, and Southern region, as they are now. The Core Area would be an overlap area served by all three contractors, so in a sense, the Core Area would be included in each of three regions. Customers in the Northern, Eastern, and Southern areas would call their home provider for all trips. Round trips anywhere in the

home region or the Core Area would be booked in one call and served by one provider. Customers in the Core Area could call any contractor for trips within the Core Area, while for trips to another region, they would call the home provider for that region. This arrangement would create one-call/one-contractor service for the 60% of LA Basin inter-region trips that go to or from the West Central region.

Inter-region trips not involving the Core Area (for example between Eastern and Northern regions) could be served as they are now (with a transfer of the customer's trip reservation call to the contractor serving the return trip), or the home contractor could be required to book and provide the entire round trip. These trips account for the remaining 40% of all inter-region trips. Requiring one-call/one-provider service for inter-region trips outside of the Core Area would be possible at any time and does not depend on creation of an overlap area, so that possibility is not evaluated further at this time.

The principal benefit of this alternative would be more efficient provision of service between the central area and other regions. There would also be some savings on the cost of telephone service, since reservations calls would no longer need to be transferred between contractors, although we understand that this particular savings may be short lived if Access' new telephone system does not include these transfer charges.

Analysis

Since trips in and out of the Core Area would no longer be inter-region trips, there should be much less deadheading involved in serving these trips. The hour-by-hour imbalance of flows that limited the impact of Alternative 3 would apply here too. This alternative should be able to achieve the productivity improvements estimated in the statistical analysis summarized earlier in Figure 13-4, but would be limited just to trips in and out of Core Area. Compared to Alternative 5, Centralized Call Center, or Alternative 6, Centralized Call and Control, the attractive feature of this alternative is that it does not require establishing a new operating entity and retains the advantages of coordinating the reservations, dispatch, and vehicle operations functions within one entity for such trips.

Recognizing that the eventual Core Area would likely be smaller than the current West Central Area, and that the remainder of the West Central region would be redistributed to the other regions, the West Central region is used as the surrogate for the Core Area for the purposes of our analysis. Figure 13-12 shows the estimated potential reduction in vehicle hours from avoiding deadhead with trips in and out of the West Central region. (This is an extract of data from the table shown earlier in Figure 13-4, "Likely Estimated Vehicle Hour Savings per Month"). A 3.9% reduction in vehicle hours, if applied to the budgeted \$113 million FY 2017 cost of purchased transportation, would imply a savings of \$4.4 million. Note that the number of reservations sessions for current inter-region trips would also be cut in half, so savings would apply to reservations cost as well as vehicle operations.

Figure 13-12 | Estimated Vehicle Hour Savings per Month – Core Overlap Area

Pick Up Region	Eastern	Northern	Southern	West Central	Total Hours Saved	Total Hours Operated	Pct. Savings
Antelope						9,081	
Eastern				1,732	1,732	57,520	3%
Santa Clarita						2,063	
Northern				884	884	48,380	2%
South				749	749	74,389	1%
West Central	1,763	1,334	2,486		5,582	38,927	14%
					8,948	230,359	3.9%

Risks

Dividing intra-region trips inside the West Central area among multiple contractors dilutes each contractor’s ability to create productive schedules. To compensate for this, it would be desirable for there to be some convenient mechanism that allowed the contractors to trade trips, similar to the trip exchange concept that SGT and CTI employ. This assumes however that customers do not need to be assured of which contractor will serve their trip.¹³ If customers have a choice of contractors to call for intra-Core Area trips, there is also the possibility that one or more contractors could receive a higher proportion of requests than anticipated, based on familiarity or a higher service quality, which from a customer service quality perspective, isn’t such a bad thing. Assuming that no denials are allowed, this situation could also require an ability to move trips between contractors in order to avoid a degradation of service. Note that a common software platform may be necessary to support – or facilitate -- the trip exchange process.

Eligibility and Software

Unlike Alternatives 5 and 6, both of which would include centralized reservations, Alternative 4 does not immediately create an opportunity to implement trip-by-trip review of reservations by customers with conditional eligibility. However, Access could nonetheless move forward with steps to review the conditions that apply to these customers, determine what information would need to be added to allow trip-by-trip review, begin the process of conducting field reviews for path of travel, and begin developing software tools to inform reservationists when a customer may not be eligible for a requested trip. And while this is possible (and has been demonstrated in places like Pittsburgh with different software packages used by different service provider contractors), a common software platform would greatly facilitate addressing the issues identified as risks and the steps that would be needed to implement trip-by-trip eligibility. A common software platform would also make it easier to develop tools to assist reservationists, like pop-up windows requiring the reservationist to verify whether specific conditions are met for the trip being requested. It may also be necessary to create such tools to interface with a customer application. However, whether or not a common software platform is provided, there would still be an inherent conflict of interest with the contractors still responsible for reservations, especially if the contractors continue to be paid by the trip for their variable costs.

¹³ There is a precedent for this: In the relatively new Chicago service model, a trip booked by one contractor may wind up being served by another contractor as a result of third-party scheduling.

Alternative 5: Centralized Call Center

This alternative involves centralizing the reservations function and the handling of same-day customer issues (e.g., ETA/trip status calls), and having the reservations agents undertake *preliminary* scheduling in real-time immediately after the reservation is booked while the customer is still on the telephone. The call center staff that performs this function could be employed by Access Services or a call center contractor retained by Access Services. If a contractor is hired, it should ideally have no affiliation with any of the service provision contractors or taxi subcontractors, as this will preserve objectivity and avoid conflicts of interest. A centralized call center could:

- Create more efficient schedules for inter-region trips
- Allow for a more consistent customer experience with no need to make multiple bookings for a single round trip
- Pave the way to operationalize conditional eligibility as part of the reservations process

Under this alternative, a centralized call center would replace the SGT/CTI call center, the MV/Global call center, and the Keolis call center. Potentially it could also replace the MV call center in Santa Clarita, although for the purposes of these analyses, we have assumed that the way in which ADA paratransit trips are booked, scheduled, and dispatched will remain the same in Santa Clarita because it is a coordinated system, with ADA and other paratransit co-mingled.

The functions performed in this call center would include reservations and handling ETA calls for the five regions. Thus, for those five regions, there would be no transferred calls for round trip requests to other zones. Depending on the capabilities of the software used, the call center staff may also have to perform preliminary scheduling in order to give a customer a confirmed pick-up time. This would be the approach for example if Trapeze was used; with 5M, confirmed pick-up times could be provided to the customer, as they are in the SGT/CTI call center without having to schedule a trip to a specific run. In either case, the service providers would still be responsible for *final* scheduling and dispatching.

As part of the reservations functions, much as is done now, the reservationist and the customer would come to an agreement on a system-suggested or negotiated pick-up time. Service efficiency improvements in the LA Basin regions would be gained because the software system used in the call center would be considering the service supplied by all four LA Basin contractors.

As part of this alternative, it would be desirable for the call center and the service providers to use the same software platform. This would facilitate passing information back and forth between the call center and the providers, including up-to-the minute data about planned vehicle capacity for the next day and providing customers with ETA/trip status information. While it is technologically possible for one or more providers to use a system that is different from the call center, it would be cumbersome and is not recommended.

All customer ETA/trip status calls for the five regions would also come in to the call center, either to the reservations agents or a separate set of “service monitors” as they call them in NJ Transit. Call center staff would check the vehicle location, and estimated time of arrival (based on the real-time location of the vehicle), and would only call the contractor dispatcher hot line if they had to. This is another reason why it would make sense for one software system to be used. As a side note, the use of IVR for imminent arrival calls and the Where’s My Ride app both should significantly reduce the number of ETA/trip status calls, and should in turn reduce the average hold time for such calls. Calls from re-emerging no-showed customers would also come to the call center. In New York City, the call center contractor maintains a special set of agents (called route zero agents) that are dedicated to this function. These agents would then call the provider in the best position to take the trip, and/or could have a set of dispersed non-dedicated service providers (NDSPs) available for this purpose.

Following-up on drivers' no-show requests would remain with dispatching staff at the service provision contractors, who would also handle all other same-day issues involving issuing direction to drivers and, most likely, moving trips among runs as needed based on real-time events.

If the call center is contracted out, the contractor could be paid on a cost plus/time and materials basis, based on an annual negotiated budget (as is the case in Boston). Alternatively, Access could pay its call center contractor on a per-call basis, as WMATA in Washington DC does. Access would provide the infrastructure (facility, furniture, etc.) and all software and communications that the call center manager would need, including T-1 connections to the providers or the equivalent. Alternatively, Access could ask proposers to propose a facility, and have a contractual provision for Access taking over the lease or property if they want to (as is the case in Boston). Or, Access could house the call center at its headquarters in El Monte if there is room available and if there is room for expansion.

Estimate of Savings

A central call center has been analyzed as a partial or Phase 1 implementation of Alternative 6, Centralized Call and Control. It is partial in the sense that reservations, preliminary scheduling, and same-day customer service are centralized, but control of vehicles and drivers (dispatching) is left with the providers. The call center would create what appear to be optimal schedules based on information available at the close of the reservations period, making best use of all resources of all providers. Vehicles would always be scheduled to return to their operating base at the end of a driver shift, but otherwise could be scheduled to provide service anywhere in the four LA Basin regions.

The providers would need to have flexibility to alter these schedules for many reasons. For one thing, some trips would be left unassigned when the call center finishes its scheduling process. Providers would need to schedule these trips, and in the process might need to move previously assigned trips. In some cases they might have to give a trip back to the call center to be performed by another provider. In the end, providers must be free to (1) alter driver schedules based on availability, (2) assign trips to taxi subcontractors, including clustering trips onto taxi subcontractor mini-runs, and (3) adjust to events on the day of service, including no-shows, cancellations, traffic, delays for any reason, and other incidents that require schedule adjustments. The call center may be able to act as a sort of clearinghouse to aid cooperation among providers on the day of service, but that function would most likely fall well short of full central control as in Alternative 6.

For the sake of analysis, if a central call center produced half the operating cost savings of fully-centralized call and control center, that cost savings would be equivalent to about \$2.7 million in current dollars, based on the FY 2017 budget for purchased transportation. There would also be a savings on the cost of reservations staff at the providers, which would be balanced by the cost of operating the central call center. All of these costs and savings are analyzed as portions of the costs and savings that are explained in more detail in the discussion of Alternative 6.

Figure 13-13 below summarizes the calculations. Avoided provider costs are based on a detailed analysis of bids for paratransit service in Boston both with and without control center functions, and an estimate of the cost of adding central reservations using detailed cost data from the Boston proposers and multiple peer systems. The figure of 4.5% savings in the cost of purchased transportation (Line D) is half of the 9% savings estimated for central control. The result is a hypothetical net savings of about \$1.8 million in FY 2017, or about 1.6% of budgeted costs for purchased transportation.

Figure 13-13 | Alternative 5 Net Savings Calculation

Item	Amount	Notes
A. FY 17 Budget - purchased transportation	\$113,230,211	Excludes Access to Work, Free Fare
B. Avoided cost with a Call Center	2,717,525	2.4% of A based on analysis of Boston bids
C. Net cost for vehicle operations	110,512,686	A – B
D. Savings	4,973,071	4.5% of C
E. Added cost for control center	3,125,154	115% of B based on analysis for Boston
F. Net Savings	\$1,847,917	D - E

Demand Reduction from Operationalizing Conditional Eligibility

As mentioned in Chapter 4, Access staff undertake a review process in arrears to determine whether trips taken by customers with conditional or restricted eligibility were in fact eligible. As reported, this effort has proven to be effective in reducing the number of ineligible trips, according to staff. The anecdotal statement made by staff was that ineligible trips have decreased from about 30% of these customer trips to under 10%. That said, a strategic operationalization of conditional eligibility, as implemented through a centralized call center and that replaces the current effort, could result in a greater reduction and savings.

This process of analyzing each trip request on the basis of conditional eligibility restrictions is known as “trip-by-trip eligibility.” The connection between trip-by-trip eligibility and a centralized call center is that the involvement of the call center avoids a conflict of interest on the part of the service providers, who lose money each time they screen out a potential trip. Also, having a central call center would allow consistent and uniform application of eligibility conditions, which is a critical element.

A detailed estimate of the impact of trip-by-trip eligibility would require examination of the conditional eligibility status of ADA eligible customers. We have not attempted that analysis, but have used a similar analysis conducted by Nelson\Nygaard for the Regional Transportation Authority in Chicago, and limited data from several other paratransit systems that have been applying conditional eligibility for many years.

For example, the systems that have implemented a comprehensive program of trip-by-trip eligibility, including feeder service, operate in much smaller service areas than Access. The most comprehensive programs are in Salt Lake City and Pierce County, Washington. Pittsburgh, Pennsylvania has a comprehensive program of trip-by-trip eligibility but makes very limited use of feeder service. The available experience from these systems indicates that on the order of one-third of paratransit eligible individuals could be conditionally eligible, and that these people will take paratransit trips at about one-half the rate of unconditionally eligible people if trip-by-trip review of eligibility is consistently applied, including determining which trips can be made using fixed-route service with or without a feeder leg. The experience in these systems suggests that such efforts result in a reduction of as much as 16% in total trips provided.

The more detailed analysis conducted for the Chicago RTA produced a more conservative estimate of likely impact. At the time of the analysis (early 2009), 17.1% of all ADA paratransit eligible people in the Chicago region were conditionally eligible. The most common categories are shown in Figure 13-14.

Figure 13-14 | Chicago RTA Conditional Eligibility Categories

Condition	Percent of ADA Eligible People
Conditional, Winter Months - Ice/Snow	12.6%
Conditional, Variable (Good Day Bad Day) - Distance to transit stop	8.7%
Conditional, Path of Travel – Sidewalk Condition	6.3%
Transitional, needing Curb Cuts	6.3%
Conditional, Path of Travel - Distance to transit stop	8.1%
Conditional, Winter Months – Temperature	1.9%
Conditional, Summer Months	1.5%

Conditionally eligible individuals had an average of three conditions per person, and 32% of all conditionally eligible people had four or more conditions. A detailed review of the eligibility files showed:

- 18% of conditionally eligible customers were candidates for trip-by-trip review based on the data already on hand, without further review or field work.
- 14% of conditionally eligible customers had so many conditions that they would rarely if ever be able to use fixed-route transit for a trip.
- The remaining 68% of conditionally eligible customers would be candidates for trip-by-trip review only after: 1) the certification process was revised to provide more detail about specific issues for individuals with path of travel conditions; 2) information about customers with variable conditions included their capabilities on bad days as well as good days; and 3) a comprehensive program of field review of paths of travel and feeder service was implemented.

Full application of trip-by-trip eligibility would require considerable groundwork to develop procedures, train staff, and conduct field reviews of conditions at bus stops and along the paths customers would travel to and from stops. To implement feeder service, there would need to be detailed coordination with fixed-route transit systems to ensure that transit system capacity and accessibility issues are addressed, and that passengers are never left stranded. Changes to the eligibility process could also be needed.

In Los Angeles, if 25% of ADA eligible people have conditional eligibility, and 20% of them have conditions that it is feasible to base trip-by-trip eligibility on, then a reduction of as much as 10% of paratransit trip making could eventually be seen. Great care would need to be taken to avoid causing hardship to riders; for example by introducing trip-by-trip eligibility in stages, beginning with new riders and focusing on frequent riders who are clearly able to use fixed-route transit for particular trips, as determined by field review.

Any savings that stems from operationalizing conditional eligibility would be reduced by the savings that already accrues from the current review process performed in arrears.

Service Consistency

An additional, less quantifiable, benefit of a centralized call center is that it would eliminate inconsistencies that exist among the dispersed current set of call takers. Some transit agencies (like NYC Transit and now the MBTA in Boston) have staffed call centers by retaining contractors with specific expertise in call center operations instead of one of the national transportation management companies. They have found that these companies are able to focus on softer skills that provide better customer service. Call center contractors also have ways on focusing on call center staff efficiencies more than

transportation management firms. At the same time, they have a greater reliance on the paratransit software for certain functions than the national transportation management firms.

Risks

Implementing a major change, especially creating a brand new operation performing a function without precedent in the region, would inevitably entail significant risk. There would also be some duplication of effort as regards the scheduling function, since the call center would create preliminary schedules that would then be revised by the providers. However, this may not be greatly different than the iterative scheduling process already used by the providers. There would also be a loss of contact between reservations and dispatch. This may come into play for escalated ETA/trip status calls. There could also be some loss of realism in scheduling if input from dispatchers is not easily incorporated in scheduling.

The most significant ongoing risk (once start-up issues are resolved) would be diffused responsibility and accountability. Failures of communication could result in service issues, for which it would be difficult to assign responsibility. This would apply to individual incidents, and could also apply to ongoing performance issues.

Alternative 6: Centralized Call and Control Center

Under this alternative, all four primary call and control functions (reservations, scheduling, dispatching, and handling customers' same-day issues) would be centralized under one roof for the LA Basin regions, letting the current model for Santa Clarita and the Antelope Valley remain intact. For brevity, the new entity is referred as the "control center."

The control center would have similar benefits as described for a centralized call center only specifically, more efficient schedules, a more consistent customer experience with no need to make multiple bookings for a single round trip, and improved ability to operationalize conditional eligibility as part of the reservations process. The primary additional benefit of a control center is that the efficiency of vehicle and driver utilization should be even greater, since all scheduling and day-of-service adjustments would be coordinated.

There are two ways a control center could be implemented: (1) A single contractor could directly perform all of the functions from the get-go; or alternatively, (2) Dispatching would remain part of the service provider contracts, but the contractors' dispatchers would be housed with the call center employees in the same facility. This arrangement formerly worked in both San Jose and West Palm Beach, and in both cases the groups of dispatchers from the different providers did work well together (noting that there are now different service models in both locations). This arrangement avoids potential labor law issues from having one entity controlling the work of another entity's employees. With the possible exception of centrally housed dispatchers, the providers' responsibilities would be limited to vehicle operation, including maintenance; hiring, training, and supervising a driver work force; and creating driver schedules to operate the vehicles.

Access would continue to hold the contracts with the dedicated service providers (in other words, the control center would not be a brokerage). Under this model, regional boundaries would no longer serve any purpose, as all customer calls would be received centrally and provider vehicles could be routed as needed. However, each contractor would have its own operating base or bases, with the result that the operations of each would continue to be concentrated in certain areas.

We recommend that the control center contractor be paid on a time and materials basis, within an annually negotiated not-to-exceed budget versus the per call approach employed by WMATA. In procuring dedicated providers, Access would put out packages that are defined by the number of trips or service hours rather than geographic areas, and pay for these contracts based on a monthly fixed fee

(covering fixed costs) and for variable costs per vehicle hour with performance-based incentives and penalties. Payment per trip would no longer be feasible, since the providers would have little control over productivity; moreover, with contractors focusing on operations, proposals received will tend to be more competitive – with less risk built in – and will be easier to analyze as roughly 70% of the variable cost structure is hourly based.

Initial packages that are bid upon would be sized to reflect a certain percentage of the work. For example, if three carriers are desired, Access Services could put out 50/30/20 packages, or 50/25/25 packages, or 40/40/20 packages, or even 33/33/33 packages. Denver RTD recently put out its RFP with four 25% packages, with bidders allowed to bid on one or two packages. Hence the RTD could have wound up with two, three, or four carriers. (RTD ended up awarding contracts to three providers, with one doing 50% of the work.)

One of the hallmarks of this package approach versus regional boundaries is that it would give Access some leeway to make periodic adjustments to the number of trips or vehicle hours going to each provider before a renegotiation of the rates is called for. This is especially possible since Access owns a portion of the fleet, and the control center contractor would control the scheduling. The control center contractor would be responsible for putting together the run structure for each service provider. Schedulers would schedule trips to minimize deadheading to/from facilities, and maximize geographic familiarity, but would not be beholden to regions.

The use of non-dedicated service providers (currently taxi subcontractors) could work in one or more of the following three ways:

- The control center schedulers could assign a certain number of taxi trips to each contractor (who has taxi subcontractors) based on stated capacities. Dispatchers would call the primary contractor for day-of assignments, noting that the contractor would have the right to decline same-day assignments if the number exceeded stated capacities. Of course, where a contractor owns the taxi subcontractors, this is less of an issue.
- Access Services could contract directly with the taxi companies, and the control center schedulers and dispatchers could assign a certain number of taxi trips to each taxi contractor based on stated capacities.
- As in NYC, Access Services could retain a NDSP broker, to which control center schedulers and dispatchers would assign trips. The broker would disperse these to taxis or other NDSPs with whom they have a contractual arrangement (including making sure that drivers and vehicles are certified).

Taxi trips would be paid for based on distance, with the cost of each taxi trip pre-determined based on GIS-calculated mileage and a negotiated rate per mile. If taxi work is separated out contractually from dedicated service work, the bid packages would reflect just the dedicated work.

Analysis

The principal quantifiable benefit of central control would be more efficient use of vehicles and driver time, reducing cost per trip. As in the case of Alternative 5, there would be savings from removing some functions from provider contracts balanced by the cost of the control center. A centralized control center would also pave the way to operationalize conditional eligibility checks at trip request intake (trip-by-trip eligibility), which could generate some significant savings for Access Services. The savings from trip-by-trip eligibility would be the same as analyzed for Alternative 5, so that analysis is not repeated here.

The impact of more efficient use of vehicles was estimated in an analysis of all 237,644 weekday trips provided within the LA Basin in October 2016. The likely reduction in vehicle hours was summarized earlier in Figure 13-4, “Likely Estimated Vehicle Hour Savings per Month”.

The savings from improved vehicle productivity would be partially offset by the added cost of operating a central control center, which in turn would be partially offset by reduced provider cost for reservations and dispatch. The 9% estimated vehicle hour savings (see Figure 13-4) have been applied to the FY 2017 budget for purchased transportation. Approximately 4% of the payments to the contractors could be avoided if they no longer had responsibility for reservations and radio dispatch. This percentage is based on a detailed analysis of multiple contractor bids in Boston, conducted by Nelson\Nygaard, when proposers were asked to bid with and without control center functions. The cost of the control center is estimated at 115% of the avoided contractor cost. This percentage too is based on an analysis for Boston in which data from bids and multiple peers were used to estimate staffing needs; an allowance was included for rent and equipment. The control center cost is higher than the avoided contractor cost because of some duplication of management and administrative labor. As shown in the following table, the result is a hypothetical net savings of about \$4.3 million for FY 2017, or about 3.8% of purchased transportation cost.

Figure 13-15 | Alternative 6 Net Savings Calculation

Item	Amount	Notes
A. FY17 Budget - purchased transportation	\$113,230,211	Excludes Access to Work, Free Fare
B. Avoided cost with a Control Center	4,529,208	4% of A based on analysis of Boston bids
C. Net cost for vehicle operations	108,701,003	A – B
D. Savings	9,550,506	9% of C
E. Added cost for control center	5,208,590	115% of B based on analysis for Boston
F. Net Savings	\$4,341,916	D - E

The FY 2017 budget does not include an allowance for driver wage increases, which will soon be required to comply with minimum wage laws and economic conditions which have made it hard for providers to recruit and retain drivers. Since all of the calculations are done in terms of percentages, an increase in wages would not change the estimated percentage savings of 3.8%.

Risks

Risks in implementing central control would be similar to those noted for central reservations, but magnified by putting even more responsibility within the central entity. Providers would have little control over productivity. If radio dispatching is performed by employees of the control center, and even if it is done by employees of the provider located at the control center, there could be a tendency for drivers and their supervisors to blame the center for service issues, even when there is significant driver involvement. The call and control center contractors in Denver and Washington have successfully navigated this split of responsibilities, while the new call and control center contractor in Boston has been experiencing transitional challenges.

14 PRELIMINARY RECOMMENDATIONS

The following constitute a preliminary summary of recommendation discussed in early chapters.

SERVICE PERFORMANCE STANDARDS

Access should immediately adopt new service performance standards for the following and ensure that there are procedures in place for identifying patterns of performance issues should standards not be met in a particular region.

- Missed trips: Goal should be to be under 0.5%; trigger for penalties - over 1.0%
- Excessively Long Trips: Under 5%
- Hold Times: Adopt same standards for ETA calls
- Complaints: Goal should be to be under 3.0 per 1K trips; trigger for penalties - over 4.5 per 1K trips

It is suggested that service goals and triggers for penalties do not have to be one in the same, as is the current practice at Access. Also, while we favor an immediate adoption of these standards, their adoption should be reviewed by the TPAC and the CAC, and, if they do trigger penalties, they can be worked into each contract on a staggered basis when regional contractors are procured. In the case of renewing option years, it is suggested that Access consider including the new standards (and penalties, if appropriate) as an amendment, especially if re-procurement is years away.

MANAGEMENT AND OVERSIGHT

Operations Monitoring

OSMs are currently spending about 20% of their time monitoring reservations calls. It is recommended that this effort be reduced by focusing monitoring on new reservations agents, and otherwise triggered by a complaint.

The OSMs conduct quarterly pull-out vehicle inspections, which are also conducted by the Access Safety and Fleet division, in addition to some of the contractors' own inspections. Access should determine whether these multiple layers of inspections are redundant, or whether the content of the inspections is different enough to justify keeping all three inspections. This exploration should be conducted in the context of the overall staffing of OSM functions, which may be deficient given the broad range of tasks for which they are responsible.

The Daily Operations Report (which reports on yesterday's service) sent by each contractor to Access staff is not particularly useful because the information includes totals for the day. It should be revised to reflect periods of the day and the extent to which runs are covered by extra-board or back-up drivers or closed.

Because there are contractors who have trained their reservations agents and dispatchers to respond to ETA calls received before the end of the pick-up window (contrary to Access policy), we recommend a campaign to retrain reservation agents and dispatchers accordingly. Before and after monitoring of the

level of ETA calls and ETA hold time for each contractor retrained should be undertaken to determine whether this retraining was successful.

Due to its success in alleviating no-shows and missed trips, Access should consider expanding the designated pick-up location signage program. There are currently 73 signs placed throughout the service area.

Fleet Design and Management

Access should revise its needs assessment and vehicle allocation methodology, based on an increased vehicle utilization target of 7.25 hours. It is estimated that this potentially could save Access \$4 million over a six-year period. This methodology would replace the current methodology that is based on one vehicle per 400 monthly trips. One of the hallmarks of the suggested methodology is that it incorporates each contractor's respective use of taxi subcontractors.

Access should evaluate the option of acquiring radios and MDTs internally in order to achieve potential cost savings and consistency.

Pending legal review, Access should reconsider activating the SmartDrive audio function. This would enable staff to resolve customer complaints concerning driver conduct; it also will be important in the event of any future litigation.

The significant increase in the Access fleet has put a strain on this department, resulting in the need to draw assistance from the Road Safety group. We recommend consideration of staff expansion for this group.

Policy Development

Access should review individuals who frequently no-show to determine if these individuals' no-shows are associated with subscription trips. If the customer is abusing the standing order program (even to the point of cancelling one leg of the no-show and then requesting a new trip at a preferred but only slightly different time), Access should consider looking into such instances, and if warranted, revoke the customer's subscription trip, noting that there is nothing in the ADA that requires a system to have subscription service. If Access pursues this, it should revise its no-show policy.

Contractor Procurement

To provide stability and to potentially increase the number of proposers, Access should either (1) procure its own facilities over time; or (2) consider adding contract language that would allow the agency to assume the facility lease if the contract is awarded to another firm. This has been added to a contract that the MBTA recently used to retain a call and control center manager. The concept is fairly straightforward: if, for some reason, a contract ends before the end of a lease, Access would have the right to take over the lease. And, similarly in cases where a contractor owns a facility, the facility is dedicated to Access Paratransit use, and Access has paid for the full cost of a property over time, Access should have the right to use it if the contract ends.

The current practice of separating the cost evaluation group from those individuals conducting the balance of the evaluation should be reconsidered. We recommend that the same group of individuals is responsible for all evaluations so that the connection between cost and quality can be better integrated. This would require that the evaluation be conducted sequentially. If Access does not pursue this, it should have at least one or two staff, and/or a consultant, who can bridge the gap between the two evaluations, as information gleaned in the technical proposal informs the cost proposal.

Internal Wages

Access has had difficulty in attracting appropriately-experienced applicants, especially those that require a high level of experience. While a detailed wage comparison is beyond the scope of this project, we do recommend that a wage-review/analysis be undertaken by a local consulting firm experienced in this area.

DRIVER WAGES

The Financial Projections in the report do not assume a significant escalation of driver wages (over above what results from the minimum wage increase) to combat the net loss of drivers currently being experienced by the Access contractors. While the minimum wage increase will help, it will likely have a neutral effect on the extent of more competitive opportunities for drivers. We believe that an additional wage increase for drivers is critical to the sustainability of the Access Paratransit in its current form, and therefore recommend that a driver wage study be undertaken.

THE ROLE OF THE OMC

Currently, the OMC serves a safety net for stranded customers, especially at the transfer point. The OMC then finds a safety-net subcontractor to serve the trip at an additional cost. This seems to be a confusing and unnecessary role, since customers are confused about when to call the OMC. This decision can also result in further delays. We believe that the region's contractor should be responsible for the trip; this keeps the accountability clean. We also suggest a possible doubling of the penalties for Late 4 trips to cement the point and induce more attention to these trips.

Alternatively, if the current system remains, we suggest that the per trip cost of the OMC plus the cost to serve the trip be doubled and invoiced to each carrier, over and above any missed trip penalties.

We also see a revised role for the OMC – that being to coordinate all the transfer trips, from request to execution. This will free contractors from the inordinate amount of time required to coordinate these trips with other contractors.

TECHNOLOGY

The benefits of having a common software platform seems to outweigh the disadvantages. Access should move toward a common platform of paratransit scheduling software; this should involve an unbiased evaluation of each software under consideration, if not a formal procurement. Note, however, that neither of the alternative service models recommended for further consideration requires a common platform.

ALTERNATIVE SERVICE MODELS

Of the six service model alternatives, the two that appear to offer the greatest potential savings are Alternative 4, Core Overlap Area, and Alternative 6, Centralized Call and Control Center, as summarized in Figure 14-1. Alternative 6 has the additional feature of allowing for more effective screening based on conditional eligibility. However, it also is the riskiest of all the alternatives, involving a major restructuring of operating methods, the expense of creating an entirely new operating function, and dependence on the expertise of a single contractor to operate the new call and control center. For this reason, we consider Alternative 4 more realistic and worthy of further consideration. It does not exclude screening based on conditional eligibility, which can still be done “offline” by Access staff beginning with the most frequent riders, resulting in notations to be put in customers' data files to be accessed during the reservations process. Effective implementation would require software changes, ideally a common software platform for all providers, which is also the case for Alternative 6. Alternative 4 would also involve significant change, but would not affect contractors' fundamental operating methods.

Figure 14-1 | Potential Annual Savings and Issues by Service Model Alternative

Alternative	Potential Annual Savings	Issues
1. Revised Service Region Boundaries	None	
2. Revised Number of Regions	None	
3. Targeted Inter-region Operation	To be determined	Depends on analysis of specific targeted destinations.
4. Core Overlap Area	\$4.4 million (3.9%)	Long lead given new West Central contract.
5. Centralized Call Center	\$1.8 million (1.6%)	Moderately High risk
6. Centralized Call and Control Center	\$4.3 million (3.8%)	Highest risk alternative

Alternative 4 would most likely result in elimination of a separate West Central contract. Since a contract for this zone was just awarded, there would be a long lead time for implementation. However, Access could proceed to test the concept behind this alternative by adopting Alternative 3, Targeted Inter-Regional Operation. If analysis shows that there are significant opportunities for operators in the non-central zones to efficiently serve both going and returning trips to certain locations in the West-Central zone, and if experience over several years confirms that these efficiencies can be achieved, then Access could plan a phased transition to the new method of operating represented by Alternative 4.

Alternative 5 also provides a significant savings – not as much as Alternatives 4 and 6 – but significant nonetheless, and also presents a prospective pathway to Alternative 6, should Access be interested in pursuing Alternative 6 in the future. Alternative 5 would require a common software platform, and the particular software chosen will likely have a material impact on the call center manager’s role.

SAME-DAY SERVICE

If Access is interested in providing same-day service for its ADA paratransit customers, it is recommended that this not be provided through Access Paratransit. Rather, we recommend that a TNC-based alternative subsidy program be implemented as a pilot program, similar to the MBTA’s pilot program in Boston. Other transit agencies, such as Broward County Transit, the RTC in Las Vegas, and WMATA in Washington, DC are all planning to implement a TNC-based alternative program. As alternative services, they do not fall under the ground rules of ADA paratransit because:

- The decision to use the alternative service is totally up to the customer
- Transit agency can offer/suggest a service option without steering ADA paratransit customers away from the ADA paratransit service
- A customer choosing to use the alternative service for a trip does not impact the customer’s ADA paratransit eligibility or right to schedule trips on ADA paratransit service
- None of the vehicles used are owned, operated, or controlled by transit agency

As such, the transit agency can cap the number of trips taken by any particular customer on this service, set whatever fare level and structure it desires, and not hold drivers to the same requirements as the drivers of the ADA paratransit service. At the same time, such programs must meet Title VI requirements and equal access requirements, especially if federal funds are used.

For Access to determine whether or not savings have been achieved, it is imperative that some tracking take place to better understand the level of diverted trips versus the level of new trips for each customer

participating in the subsidy program. In many such programs, transit agencies look at the before-and-after level of ADA paratransit ridership to estimate those levels. Customer surveys, while less accurate, have also been used.