
# ACCESS SERVICES COMPREHENSIVE OPERATIONAL REVIEW

## Final Report

October 2017

NELSON
NYGAARD

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# EXECUTIVE SUMMARY

Access Services ("Access") retained Nelson\Nygaard Consulting Associates and its subcontractors, AMMA Transit Planning and DemandTrans Solutions to perform a Comprehensive Operational Review of the operational component of Access Paratransit. The focus of this study was to assess how Access Paratransit is organized and delivered, and to assess Access' management/oversight role and supporting functions, relative to Access Paratransit. As part of this effort, the consulting team:

- Collected and reviewed pertinent studies, going back to a three-year performance review of Access conducted by Nelson\Nygaard in 2005 to 2007.
- Reviewed and analyzed a vast amount of reports and data, including a month of raw trip data from October 2016.
- Conducted in-person, day-long visits to each of the six Access Paratransit contractors.
- Conducted 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.
- Assessed strengths and shortcomings of the system as a whole, the current service model, the functions performed by each contractors, and the management oversight functions.
- Conducted a peer review, comparing Access Services with 12 other large ADA paratransit systems with respect to key performance indicators and unit costs
- Developed short and long term recommendations to address shortcomings and/or take advantage of opportunities to improve the cost efficiency or service quality of the service.

The consulting team worked closely with Access staff throughout the project and at key junctures of the study, also sought input and feedback from Access' nine-member 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.

## EXISTING CONDITIONS

### Service Model

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.

Headquartered in El Monte and headed by an 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.

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 0-1. Also shown are the contractors assigned to each region. Most contracts are for five years, with five one-year options, with split payments based on a monthly fee covering fixed cost plus per trip rates covering variable costs. Starting in 2017, contracts will be for five years, with four one-year options.

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 |

*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.

## Unique Elements of the Access Paratransit Service Model

In the past few 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, with schedulers able to schedule trips onto the other contractor's vehicle.
- Global now contracts with MV Transportation in the Northern Region to intake reservations for the Southern Region.

- Meanwhile, MV contracts with Global to serve a portion of its weekday work, all of the overnight weekday trips, and about half of its weekend trips.
- MV also contracts with SGT taxi subcontractors for a portion of the weekday peak work and about a quarter of the weekend work.

## Key Access Paratransit Policies

- Access' service area and times correspond to the three-quarter mile fixed-route corridors and transit service times as required by the ADA. 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.

## Ridership and Service Performance KPIs

Access Paratransit ridership increased from 3.41 million in FY2013 to 4.26 million FY 2016, a 25% increase over that time period. Annual increases ranged from of 6% to 9%. Approximately 94% of the ridership emanates from the four contiguous regions of the LA Basin.

In FY 2016, 39% of the total ridership was served by various taxi subcontractors of the four LA Basin contractors. If one considers just the ridership of just these four (hence excluding trips emanating from Santa Clarita and the Antelope Valley), the portion served by taxi subcontractors is approximately 50%. Only two of the larger ADA Paratransit systems in the US have a greater percentage of trips served by taxis (DART in Dallas and RPTA in Phoenix).

System-wide productivity in FY 16 was 1.45 trips per RVH. Among peers, this is about average but should be considered a positive achievement considering Access' vast service area and long trip lengths and vehicles coming back empty after serving an inter-region trip. The regions with the highest productivity are the two North County regions, owing to their smaller size.

Service quality/safety metrics, including percentage of denials, on-time performance and missed trips; average telephone hold times for reservations; complaint frequency ratio; and preventable accident

frequency ratio all have been near-equivalent to or exceeded Access' standards. The average telephone hold time for ETA calls however, is far above the two minute standard. Access is already addressing this issue by introducing penalties for exceeding this standard in each new contract. It is also important to note that in FY16 there was one contractor in particular (Global) had a high average ETA hold time and a high number of complaints, which skewed the overall results. In addition, while the average complaint frequency ratio (CFR) is under the standard, the standard is fairly high compared with many peers, and should probably be re-visited.

## Cost Per Trip

Access' operating cost per trip for FY 2016 was $34.77. In addition to the fiscal attention to this, as provided by Access, two contributing factors are the predominant use of non-union drivers and the use of taxi subcontractors. Also, the split payment rate, which uses a rate per trip to cover variable costs, encourages contractors to schedule efficiently and to use taxi subcontractors in a strategic fashion. Cost efficiency, which in turn helps the contractors to maximize profits, is balanced by contractual penalties tied to service quality performance standards.

## Peer Comparison

Performance standards and actual performance for Access Paratransit was compared against 12 other large ADA paratransit systems. These include the systems in Atlanta, Boston, Chicago (just the city), Dallas, Houston, New Jersey, New York, Oakland/East Bay, Pittsburgh, Portland, Seattle, and Washington, DC.

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 many trips that could be taken on Access are being made on local dial-a-ride systems. The Access service area ranks fifth highest, but its service area population ranked second highest (behind the statewide service in New Jersey). Access' ADA paratransit trip density (trips per square miles) ranks second highest, only behind New York City.

Key observations from the peer analysis include the following:

- 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' percentage of missed tips from FY 2016 falls within the peer range.
- Excessively Long Trips –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, and consistent with peers.
- Telephone Hold Time – Access' standard and average hold time (for reservations) compares well with peers. As mentioned above, attention does need to focus on reducing the ETA call hold time.
- Complaint Frequency Ratio -- Noting that Access' system-wide CFR at 3.4 complaints/1,000 trips is well below the newly-established standard of 4.0 and penalty trigger of 4.5, both are on the high side in relation to most of its peers, and Access might consider lowering the standard.
- Cost per Trip – Access' cost per trips is well below the average for larger ADA paratransit systems.

# ISSUES AND ASSESSMENTS

## Overarching Issues

From 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. 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.
- With one exception (SGT-CTI), inter-region trip policies result in service inefficiencies, and longer (double) hold times.
- The average hold time for ETA telephone access needs to be reduced, noting that the implementation of the Where's My Ride app should have a positive impact on this. Also the double hold time for Southern Region customers' is being addressed.
- It is not uncommon for the three to four timed transfers per day 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 (so as not to delay the riders already on-board).
- 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).

As part of the study, the consulting team was asked to focus special analysis in the following areas.

## Management and Oversight

Access management and staff do an excellent 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 utilized to consolidate reporting and preparing draft invoices for the contractors, and for the ongoing assessment of how the contractors are doing relative to systemwide standards and other contractors.

## Fiscal Achievements and Projection of Fiscal Needs

The total operating cost of Access Paratransit in FY 17 was approximately $136 million. As ridership has seen annual increases between 5.3% and 8.2% within the last five years, costs have increased between 5.9% and 9.0%. Overall, the unit cost (per trip) has increased annually by at most 1.1% and has actually decreased by as much as 3.4% annually. Given the consistency of achieving service quality standards over this same period, this is a remarkable achievement.

Looking forward and using ridership forecasts supplied by HDR, an annual budget totals range from $163 million in FY 2018 (the dramatic increase due to minimum wage changes) and then a gradual 1.7% to 1.8% annual increase in cost per passenger. This equates to a total budget of $231 million by FY 2022.

# STATUS QUO RECOMMENDATIONS

## Maintain Current Reservations Hours

While reducing reservations hours to the "normal business" hours (typically defined as weekdays from 8:00 to 5:00 pm) is allowable, we do not think this is a good idea. The motivation of this strategy was to see if reducing reservation hours could reduce cost. Our analysis is that it would (1) not produce significant savings; while (2) inconveniencing customers. For a next-day reservation system, having extended hours is a great convenience which is exercised by customers – the most popular times of calling is at the end of 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. Basically, the same number of labor hours would be converted to the same shift.

## Maintain Current Service Area

The consulting team estimated the additional trips that would be served and the additional costs of doubling the ¾-mile corridors to 1.5 mile corridors. While 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, most on the expansion in LA County was into agricultural, parkland, or undeveloped area. Still, there would be some increase in trips and the increase in trip length would increase the purchased cost of transportation not to mention oversight and administration costs by Access. The increase in trip length would also have an impact (albeit a minimal one) on Access oversight and administration, and result in 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. The consulting team recommends that Access maintain the current ¾-mile corridors.

# SHORT-TERM RECOMMENDATIONS

## Expand/Modify Management Oversight Staff, Functions, and Tools

### Fleet Design and Maintenance Group

The fleet maintenance team performs inspections in the yards. Expansion of the Access and taxi fleets has put a strain on this group, despite the help that the Road Safety group provides. This suggests an expansion of this group, over and above the additional position already budgeted, and/or reducing their load. Pending legal review, Access should reconsider activating the SmartDrive audio function, which would enable staff to resolve customer complaints concerning driver conduct more effectively; it also will be important in the event of any future litigation.

### Operations Group

Access should reevaluate Operations Service Monitors (OSMs) spending up to 20% of their time monitoring reservations calls; a reduction in the number and a narrowing of focus will likely achieve the same result, while freeing up the OSMs for other needed efforts.

### Road Safety Group

The Road Safety Group inspects in the field at pick-up and drop-off locations. The addition of staff in the Fleet Design and Maintenance group should free up the Road Safety group to perform its tasks Access should expand its signage program at key destinations by analyzing the next level of trip generators, sites where there continues to be no-show issues and related complaints.

## Conduct an Internal Wage Review Analysis

There have been challenges filling positions at Access Services because the wage range does not match the experience required. A wage review/analysis should probably be considered for the organization.

## Modify Operational Policies and Procedures

### Retrain Contractors on Responding to ETA Calls

To ease the load on the ETA line (which has an adverse impact on hold times), we recommend a campaign to retrain reservations agents and dispatchers to refrain from giving customers any meaningful ETA information for calls that precede the end of the pick-up window, consistent with Access' existing policy. 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.

### Revise Subscription Trip Policy

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. These potential changes should be brought before the two advisory committees for their input and feedback.

### Implement a New Approach to Transfers

Currently arranging transfer trips, a complex task, is bestowed on all contractors. Traffic congestion and the run-of-the-mill delays that are common to paratransit service often cause delays at the transfer point. While the percentage of transfer trips is relatively low, and while they do represent "premium" service, Access could remove the onus of arranging for such trips while improving the experience of customers who take such trips by focusing the responsibility of arranging such trips with one entity. Therefore, we recommend that Access bestow the responsibilities on one entity: presumably the Northern Region Contractor. Thus, if a customer needs a transfer trip, s/he would call the Northern Region contractor, who would then make all the arrangements for 1st and 2nd leg trips, as needed, with the other carriers. Moreover, it would be Northern Region contractor's responsibility to provide a starter at the Olive Medical Center transfer point. Staff is addressing this by incorporating a starter into the RFP for the Northern Region to be released in Fall 2017.

### Implement a New Fleet Allocation Methodology that Reflects Use of Taxis

The current fleet allocation policy (one vehicle per 400 trips/month) results in an over-supply of vehicles to the contractors, based on their *average* utilization. In short, the same volume and level of service can be provided by the contractors with fewer Access-supplied vehicles. This is largely a function of a diminishing supply of contractor drivers and a reliance on taxi subcontractors. Regardless, if allocation is

based instead on how contractors actually utilize their vehicles, Access could potentially reduce capital costs. The extent to which a contractor uses taxi subcontractors should be left up to the contractors. Over the last few years, use of taxi contractors has escalated as recruiting and retaining van drivers have become more challenging. If future changes in the economy or wage rates results in addressing the driver shortage, and the utilization rate increases, then that would be reflected in increased vehicle purchases.

### Clarify the Customer Use of the Operations Monitoring Center (OMC) Contractor

Currently, the OMC contractor serves as a safety net for stranded customers. The OMC Contractor finds a "safety net subcontractor" to serve the trip at an additional cost. However, there would appear to be some confusion about when customers are to call the OMC. This decision can also result in further delays. Access should seek to better educate customers on when to call the provider versus the OMC, and their functions should be clearly defined. As a related strategy and to further reduce the number of Trips ultimately served with OMC intervention, we suggest a possible doubling of the penalties for Late 4 trips to cement the point and induce more attention to these trips. We also 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.

## Contractor Procurement Recommendations

### Revise Contractor Procurement Process

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. 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.

### Transfer Responsibility for Providing Operational Facilities to Access

To provide stability and to potentially increase the number of proposers, Access should be responsible for providing the operations facilities. This could involve either purchasing a facility outright or entering into a long-term lease. Care should be taken to obtain facilities with optimal locations and that are scalable in case conditions change. As an interim measure, Access should consider adding contract language that would allow the agency to assume a contractor's long-term facility lease if the region's contract is awarded to another firm. 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. Before determining the best course of action for each region, Access should conduct a facility needs survey and real estate market analysis tailored to each region.

### Adopt/Revise Key Performance Indicators

With input and eventual concurrence from the two committees, the following key performance targets should be adopted immediately. Performance based penalties that relate to these metrics should be included in contracts with each new contract (at the time of re-procurement). These are shown in Figure 0-2. Of particular note, Access does not have a missed trip or an excessively-long not-to-exceed standard or target threshold, and should adopt one for each. Historically. Access has not contractually differentiated between hold times associated with the reservations function and handling ETA calls, and

only recently added the latter to the new West Central contract. In addition, Access Services should adopt monthly procedures for determining whether or not patterns exist respectively for denials, late and missed trips, excessively-long trips, and hold times that might point to capacity constraints.

Figure 0-2 | Recommended Key Performance Indicator Targets and Penalty Standards

| Metric | Target | Penalty Standard |
|---|---|---|
| Denials | 0% | 0.2% and over |
| On-Time Performance | Over 91.0% | Under 91% |
| Missed Trips | Under 0.5% | 1.0% and over |
| Excessively-Long Trips | Under 5.0% | 5% and over |
| Telephone Hold Time – Reservations<br>- Average – Day<br>- Max – Any hour | <br>Under two minutes<br>Over 5 minutes | <br>Under two minutes<br>Over 5 minutes |
| Telephone Hold Time – ETA<br>- Average – Day<br>- Max – Any hour | <br>Under two minutes<br>Over 5 minutes | <br>Under two minutes<br>5 minutes and over |
| Complaint Frequency Ratio | Under 3.0/1,000 trips | 4.5/1,000 and over |
| Preventable Accident Frequency Ratio | Under 1.0 PA/100K miles | Under 1.0 PA/100K miles |

# LONG-TERM RECOMMENDATIONS

## Centralize Call Center Function

As shown in Figure 0-3, the consulting team developed six service model alternatives to the status quo, designed to address the service inefficiencies and to improve customer service.

Figure 0-3 | Service Model Design Alternatives

| Service Model 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%) | Moderate risk |
| 6. Centralized Call and Control Center | $4.3 million (3.8%) | Highest risk alternative |

Of the six service model alternatives, the two that offer the greatest potential savings are Alternative 4, Core Overlap Area, and Alternative 6, Centralized Call and Control Center. 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. Alternative 4 presents a more realistic alternative with similar savings but less disruption. However, this would require a long lead time since Access Service

just award a long-term contract for the West Central Area, which basically constitutes the core overlap area.

Alternative 5 involves Access establishing a centralized call center to 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 as well. The functions performed in this call center would include reservations, providing customers with a confirmed pick-up time, and handling ETA calls for the five regions. The primary benefits of Alternative 5, and why it is recommended over the other alternatives, are as follows:

1. Compared to the status quo, it would create greater convenience for customers making trips within the LA Basin. All trips could be booked in one call to the same number, where customers could also obtain ETAs.
2. While it would produce much less savings than Alternatives 4 or 6, the savings that result from Alternative 5 would more than enough to pay for the cost of establishing the centralized call center.

On the downside, creating an entirely new function would entail some risk. Some period of start-up adjustment and debugging would be likely to occur. Dividing reservations from other functions would result in divided accountability when problems occur. There would also be software compatibility issues to address, since the LA Basin contractors use two different computerized scheduling systems. Either Access would need to enforce a requirement for all contractors to use a common software platform, or new software would need to be created to translate between the two platforms now in use.

## Consider Migrating to a Single Software Platform

The primary paratransit scheduling software packages used by Access Paratransit contractors are Trapeze and 5M. Access should consider migrating a single software platform or develop links between the two software packages. With a common database, it would become possible 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. However, it should also be noted that the current set of contractors are very wedded to "their" software."

## Consider Same-Day Subsidy Program as an Alternative Service

Three alternatives for same-day service were identified: (1) unrestricted service on the current service platform; (2) accommodating same-day requests on a space available basis only; and (3) offering Access Paratransit customers a subsidy program as a non-ADA paratransit alternative. An unrestricted same-day service would likely increase the budget by 20% to 30% based on national research; only one system that we know of (in Ann Arbor) does this. The space-available option would likely not work in LA because spaces available are typically filled by trips preliminarily assigned to taxi subcontractors; in short, there are few if any spaces available. The third alternative does have some potential, not only to provide customers with a same-day option, but also provide Access with a way to decrease overall costs. These alternatives have mostly involved taxis and/or TNCs. Access Paratransit already is making use of taxis noting that encroachment of TNCs have rapidly diminished taxis as a resource and the taxis are already a significant part of the Access service model. That leaves TNCs and while a number of transit agencies (e.g., in Boston, Dallas, Ft; Lauderdale, Las Vegas) have already implemented – or are in the midst of

implementing -- such programs, it may be prudent for Access to take a "wait and see" approach before this strategy is considered further.

## Operationalize Conditional Eligibility

While Access staff does check the eligibility of trips taken by randomly-selected conditionally-eligible customers after the trip is taken, many riders with restricted eligibility are likely taking trips that they could otherwise take on fixed-route transit. Checking for specific trips for eligibility can and should be done as an administration function, with findings that are loaded into the paratransit software, so that reservation agents can easily know whether or not a trip is eligible. This will include using path-of travel reviews to investigate whether or not those trips would be eligible and building up a path of travel and/or accessibility infrastructure database should be part of this effort. The more robust the database, less site visits will need to be taken over time.

# 1 INTRODUCTION

## 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 Figure 1-1 below.

Figure 1-1 | 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 trips[1] 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 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).

[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.

- 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, which have a common ownership, 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 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.

# 2 OVERVIEW OF EXISTING CONDITIONS AND PEER COMPARISONS

## 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 2-1 | 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%** |

The most dramatic changes over this time period were in the two North County regions, with ridership in the Antelope Valley increasing 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 2-2 | 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 2-3 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 2-3 | 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 2-4 | 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<br><5% calls <5:00 | 1:29<br>4.6% | 0:41 – 1:55<br>1.4% - 5.1% |
| Telephone Hold Time – ETA* | <2:00<br>95% calls <5:00 | 3:39<br>24.9% | 0:56 – 4:40<br>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 and complaints, which are relatively high by industry norms. In both cases, however, there is one contractor whose performance is skewing these averages. 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 COMPARISONS

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 2-5 | 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 manger 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 2-6 | 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, mostly as a result of call taker errors when negotiation pick-up times.
- 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 – 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 should choose to purchase land or enter into long-term leases 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.

# 3 OVERVIEW OF KEY ASSESSMENTS

## FLEET NEEDS AND SERVICE MIX

Based on the methodology that Access has internally devised for estimating vehicle requirements--namely one vehicle for every 400 trips served per month--the overall vehicle requirements for Access Paratransit are substantial, totaling 910 vehicles over the entire six year period from 2017 to 2022 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. Over the six-year period, the capital cost for this fleet is estimated at almost $50 million.

However, there is reason to believe that given how Access' contractors have been deploying the vehicles provided to them by Access, the actual replacement vehicle needs may be less than the 910 vehicles calculated using the established methodology. As can be seen in Figure 3-1, the average utilization of Access-owned vehicles is less than seven vehicle hours per day. An important contributor to this low average utilization is the focused reliance on taxi subcontractors as a cost-reduction strategy for the LA Basin contractors (see the Taxi trip percentage in Figure 3-1) in combination with how the contractors are paid (per trip rate). In short, the contractors have an incentive to serve a substantial number of trips with taxi subcontractors in order to minimize their overall unit cost.

Figure 3-1 | Service Mix and Vehicle Utilization by Service Region

| Region | DS Trips | Taxi 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
DSV – Dedicated service vehicle

The effect of relying more on taxis to deliver trips is to reduce the need for Access-provided vehicles. Indeed, 2 of the 4 service providers now use their Access-provided vehicles less than 7 hours per day on average. In practice, this means that some vehicles are not used at all, and many others are used for a single driver shift per day, rather than two shifts. Since Access provides these vehicles to the contractors at no cost to the latter, they have little incentive to use them, especially if there is an insufficient number of van drivers and/or serving trips via taxi subcontractors is less expensive.

While Access ultimately benefits from contractor reliance on taxis (at re-procurement), it is not cost-effective to over-supply vehicles to the contractors, who then under-utilize those vehicles. Vehicle allocation and replacement approaches should reflect the reality of how vehicles are actually being deployed by the contractors, spare vehicles included. The overall vehicle utilization of less than 7 hours per day sends a clear message that vehicles are very abundant and do not need to be intensively utilized. It

bears emphasizing that if Access only replaced vehicles based on actual current utilization patterns by the contractors, the 910 vehicles indicated as needing replacement based on the 400 monthly trips = 1 vehicle approach would be reduced to 572 vehicles over the next 6 years.

It thus makes sense to develop a new method of allocating vehicles to contractors (and cease using the approach of providing one vehicle per 400 trips served per month). Access should develop a methodology for vehicle replacement/allocation that is predicated on actual usage of Access vehicles (including the need for spare vehicles). This might include more gradually ratcheting up the vehicle utilization target from the current average utilization calculated above; rather than using a target utilization that immediately jumps to the 37% reduction, recognizing this will reduce the estimated savings.

## MANAGEMENT AND OVERSIGHT

Access management and staff do an excellent 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 for 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.

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.

Road Safety - The addition of staff in the Fleet Design and Maintenance group should free up the Road Safety group to perform its tasks, such as road observations and increasing the stand sign program.

Internal Wages - Access' 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

[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.

- 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 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. However, both TNCs would likely need to partner with owners of accessible taxis to be able to meet requirements for similar response times.

# TECHNOLOGY ASSESSMENT

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

Figure 3-2 | 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 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 3-3 | Paratransit Operating Costs Trend

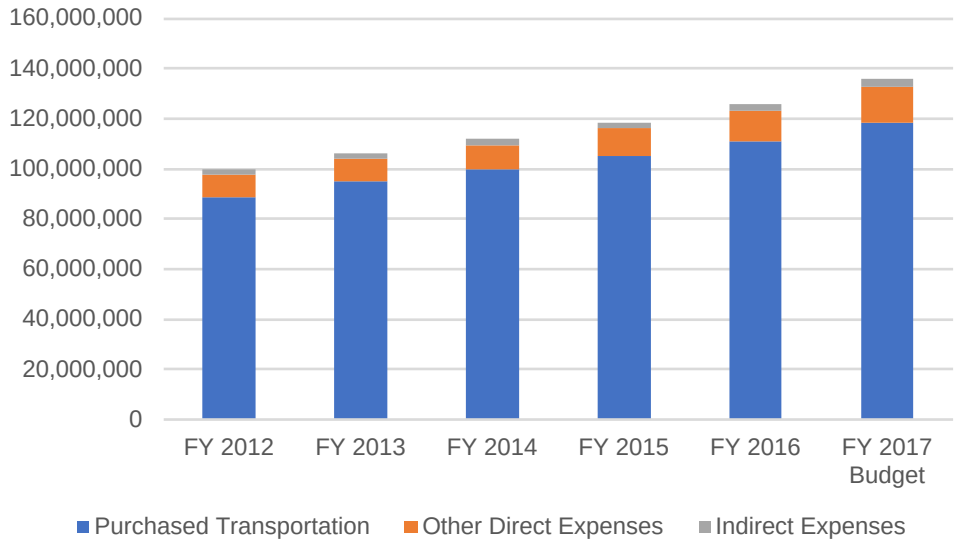



Figure 3-4 | Operating Costs and Passengers (FY 2012 to FY 2017)

| | 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 3-5 | 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

The consulting team 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, the consulting team first assessed the extent of inter-region travel.

Figure 3-6 | Inter-Region and Intra-Region Weekday Trips (October 2016)

| | Drop Off Region | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pick Up Region | Eastern | West Central | Southern | Northern | Antelope Valley | Santa Clarita | Total Trips | Percent of Trips | Trips to Other Regions | Pct. to Other regions |
| 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 six alternative service models included the following:

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. As part of reservations function, the call center reservation agents would also give customers confirmed pick-up times, as the region-based contractors do now. Regardless of the software used, some preliminary scheduling would also be desirable in order to make efficient use of vehicles for inter-region trips. In any event, 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 3-7 | 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%) | Moderate 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.

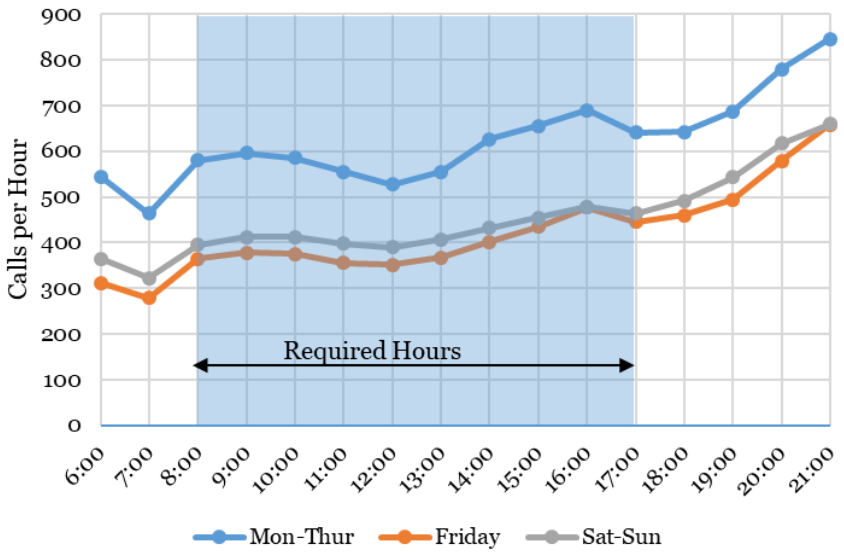
# 4 STATUS QUO RECOMMENDATIONS

## MAINTAIN CURRENT 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 4-1 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.

Figure 4-1 | 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. However, reducing 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. 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.

Another possible benefit of shortening hours would be 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.

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.

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 model Alternative 5, discussed below), 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.

## MAINTAIN CURRENT SERVICE AREA

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 in the LA Basin regions. 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 4-3 below. 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.

The impact of the change, as presented in Figure 4-2, 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%.[3]

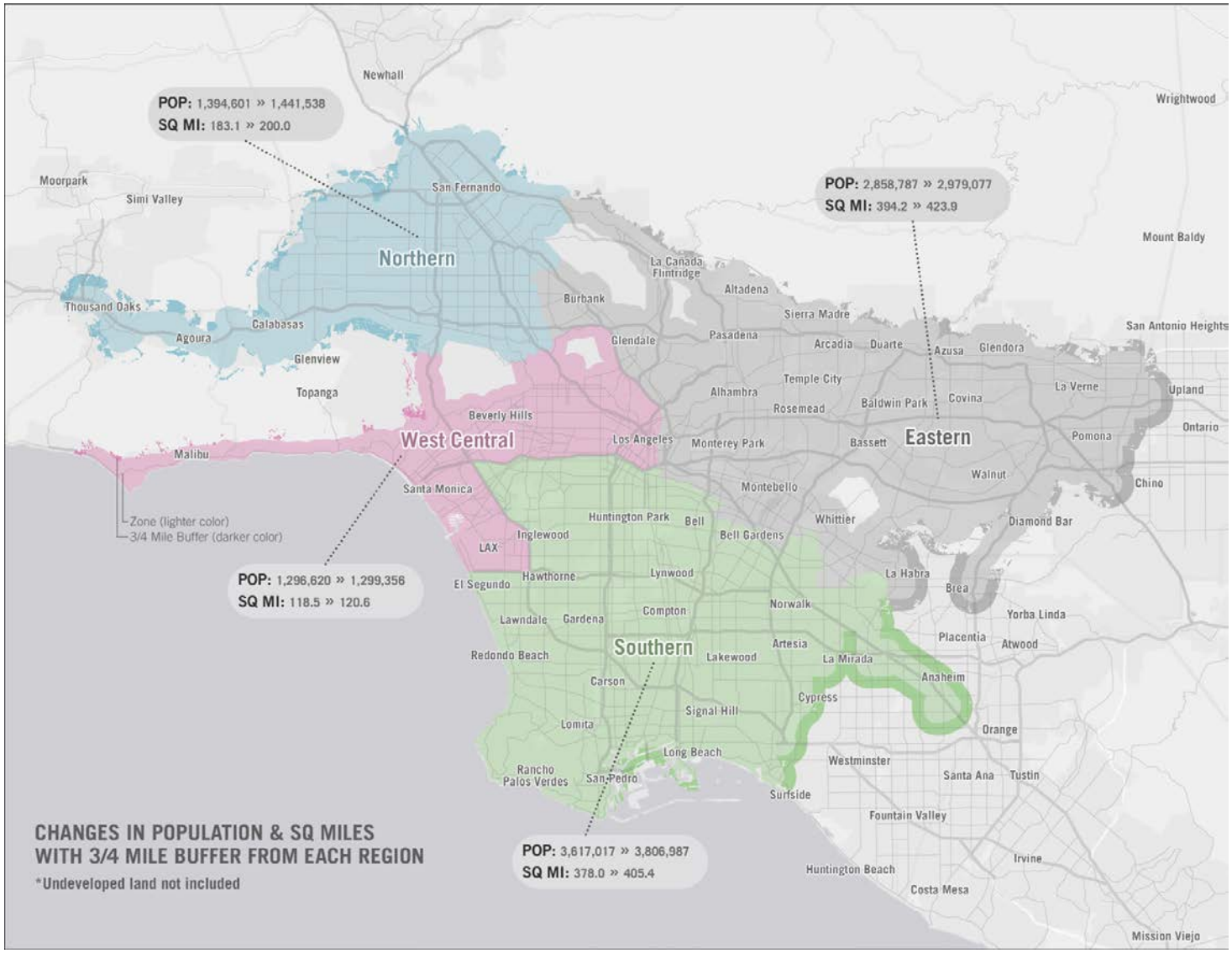
Figure 4-2 | Impact of Expanding the Access Service Area

| 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.

[3] 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%.

Figure 4-3 | Impact of Expanding the Access Service Area Map



# 5 SHORT-TERM RECOMMENDATIONS

Short-term recommendation are defined as actions that can be implemented by the end of FY 18, if not immediately. In cases where such a change has an impact on contractor costs, these changes would be included in contractual provisions at the time of each region's re-procurement.

## EXPAND/MODIFY MANAGEMENT OVERSIGHT STAFF AND FUNCTIONS AND TOOLS

### Fleet Design and Maintenance Group

The fleet maintenance team performs inspections in the yards. 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. In addition to Fleet Analyst position in the FY 2017 budget, Access should consider expanding this group further.

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 Group

Each Operations Service Monitors (OSMs) monitors 75 reservation calls per month. This consumes approximately four days a month for each OSM or about 20% of their time. By limiting call reviews to just new reservationists or when there have been problems, OSMs could spend more time on other tasks.

### Road Safety Group

The Road Safety Group inspects in the field, only at pick-up and drop-off locations. The addition of staff in the Fleet Design and Maintenance office should free up the Road Safety group to perform its tasks.

Due to its success is 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. New places for signs can be identified through an analysis of common no-shows and/or complaints.

### Conduct an Internal Wage Review Analysis for Access

There have been challenges filling positions at Access Services because the wage range does not match the experience required. A wage review/analysis should probably be considered for the entire organization.

# MODIFY POLICIES AND PRACTICES

## Retrain Contractors on Responding to Early ETA Calls

Some contractors appear to 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). This practice has an adverse impact on ETA line hold times. 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.

## Revise Subscription Trip Policy

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. This all should be brought before the two advisory committees for their input and feedback.

## Implement a New Approach to Transfers

Vehicle-to-vehicle 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.

Therefore, we recommend that Access bestow the responsibilities on one entity: presumably the Northern Region Contractor. Thus, if a customer needs a transfer trip, s/he would call the Northern Region contractor, who would then make all the arrangements for 1st and 2nd leg trips, as needed, with the other carriers. Moreover, it would be the Northern Region contractor's responsibility to provide a starter at the Olive Medical Center transfer point. Staff is addressing this by incorporating a starter into the RFP for the Northern Region to be released in Fall 2017.

## Implement a New Fleet Allocation Methodology

Access Paratransit contractors utilize their Access-provided vehicles for less than 7 hours per day on average. The current fleet allocation policy (one vehicle per 400 trips/month) results in an over-supply of vehicles to the contractors, based on this *average* utilization. Access contractors could continue to serve the same trip volume and provide the same level of service with fewer Access-supplied vehicles. This is largely a function of a diminishing supply of contractor drivers and a reliance on taxi subcontractors. If the allocation is based instead on how contractors actually utilize their vehicles, Access could potentially reduce capital costs.

Access could also more gradually increase up the vehicle utilization target from the current average utilization calculated above; rather than using a target utilization that immediately jumps to the 37% reduction, recognizing this will reduce the estimated savings. If the contractor uses its Access-provided vehicles less than the set target, it should expect that it will be expected to hold its vehicles for a longer period of time until they can be replaced, relative to a contractor with vehicle utilization at or exceeding the target. Vehicles will be replaced as they reach the end of their useful life (based on total mileage or hours used, not how many passenger trips were transported by the vehicle over some period of time). Contractors who under-utilize their vehicles will find that they cannot replace them for many more years--at least using Access funds--compared to contractors who operate their vehicles so that their entire fleet is utilized at the replacement benchmark rate.

## 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.

# CONTRACTOR PROCUREMENT RECOMMENDATIONS

## Revise Contractor Evaluation Process

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. 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 analysis of the cost proposal.

## Transfer Responsibility for Providing Operational Facilities to Access

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, which increases required deadheading. Congestion on the 10 freeway towards the Westside decreases service reliability, especially on trips immediately after pull-out. And existing 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.

To ensure that a wider range of potential service contractors could operate reliable service in the LA Basin, Access could choose to obtain 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.

Access could also 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. 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. 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.

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. Thus, in order to provide stability and to inject more competition into the procurement process, Access should become the entity that is responsible for the provision of the operational facilities. This would involve Access procuring such facilities or entering into long-term lease as it did for the Eligibility Determination function.

As a pathway toward this objective, Access should consider adding RFP/contractual provisions that would allow the agency to assume the facility lease of the selected proposer before the end of the contract. 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. Agreement to this provision should be a requirement. Additional points should be given to providers who propose scalable facilities.

Before determining the best course of action for each region, Access should conduct a facility needs survey and real estate market analysis tailored to each region.

## Adopt/Revise Key Performance Indicators

With input and eventual concurrence from the two committees, a revised set of key performance targets and penalty-triggering thresholds (if different) should be adopted for each new contract. These are presented in Figure 5-1. Of particular note, Access does not have a missed trip or an excessively-long not-

to-exceed standard or target threshold, and should adopt ones immediately. Parenthetically. Access has not contractually differentiated between hold times associated with the reservations function and handling ETA calls, and only recently added the latter to the new West Central Contract.

In addition, Access Services should adopt monthly procedures for determining whether or not patterns exist respectively for denials, late and missed trips, excessively-long trips, and hold times that might point to capacity constraints.

Figure 5-1 | Recommended Key Performance Indicator Targets and Penalty Standards

| Metric | Target | Penalty Standard |
|---|---|---|
| Denials | 0% | 0.2% and over |
| On-Time Performance | Over 91.0% | Under 90% |
| Missed Trips | Under 0.5% | 1.0% and over |
| Excessively-Long Trips | Under 5.0% | 5% and over |
| Telephone Hold Time – Reservations<br>- Average – Day<br>- Max – Any hour | <br>Under two minutes<br>Over 5 minutes | <br>Under two minutes<br>Over 5 minutes |
| Telephone Hold Time – ETA<br>- Average – Day<br>- Max – Any hour | <br>Under two minutes<br>Over 5 minutes | <br>Under two minutes<br>5 minutes and over |
| Complaint Frequency Ratio | Under 3.0/1,000 trips | 4.5/1,000 and over |
| Preventable Accident Frequency Ratio | Under 1.0 PA/100K miles | Under 1.0 PA/100K miles |

## Conduct a Review of 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.

# 6 LONG-TERM RECOMMENDATIONS

Long-term recommendations are defined as actions which are more complex and requiring significant planning and ramp-up and/or require a "wait and see" period as other transit agencies across the US implement similar and somewhat unproven strategies.

## CENTRALIZE CALL CENTER FUNCTIONS

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 6-1 | Inter-Region and Intra-Region Weekday Trips (October 2016)

| | Drop Off Region | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pick Up Region | Eastern | West Central | Southern | Northern | Antelope Valley | Santa Clarita | Total Trips | Percent of Trips | Trips to Other Regions | Pct. to Other regions |
| 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. 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 about 9% could be attained.

The consulting team developed six alternative service models, each of which is described next.

## 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 current operating methods, 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 creates a "Core Area" containing 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

A centralized call center would replace the SGT/CTI call center, the MV/Global call center, and the Keolis call center. Potentially the centralized call center could also replace the MV call center in Santa Clarita; however, 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 the new call center would include reservations and handling ETA calls for the four LA Basin regions. Thus, for those four regions, customers could book or obtain an ETA for any round trip with a single call to the same phone number. As part of reservations function, the call center would give customers confirmed pick-up times, as the region-based contractors do now. Regardless of the software used, some preliminary scheduling

will be desirable to make efficient use of vehicles for inter-region trips. In any event, service providers would still be responsible for *final* scheduling and dispatching.

## Alternative 6: Centralized Call and Control Center

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. The efficiency of vehicle and driver utilization should be improved, 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.

## Comparison of Benefits and Risks

Of the six service model alternatives, only the last three need further consideration. Alternatives 1 and 2 provide minimal benefits. Maps of destinations of trips originating in each region show that any adjustment of region boundaries would create as many inter-regional trip as it avoids. Alternative 3 might have some benefits, but involves no change in service model and can be tested on an incremental basis at any time.

Alternative 4, Core Overlap Area has the greatest theoretical operating cost savings, and would be more convenient for many riders. But for riders in the new Core Area, it could be very confusing and result in a degradation of service. Further, dividing the Core Area among three contractors could reduce productivity for trips within the Core Area. Sometime vehicles from multiple contractors could arrive to serve a single location. Trips between non-core regions would still be served by different contractors for the going and returning legs.

Alternative 5, a Centralized Call Center would create much greater convenience for all trips within the LA Basin. It would produce much less savings than Alternatives 4 or 6, but more than enough to pay for the cost of establishing the centralized call center. All trips could be booked in one call to the same number, where customers could also obtain ETAs. On the downside, creating an entirely new function would entail some risk. Some period of start-up adjustment and debugging would be likely to occur. Dividing reservations from other functions would result in divided accountability when problems occur. There would also be software compatibility issues to address, since the LA Basin contractors use two different computerized scheduling systems. Either Access would need to enforce a requirement for all contractors to use a common software platform, or new software would need to be created to translate between the two platforms now in use.

Alternative 6, a Centralized Call and Control Center, would have the potential for much greater savings than a centralized call center lacking centralized control of vehicle operations (Alternative 5). It would have the same customer convenience benefits as Alternative 5. 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 heavy dependence on the expertise of a single contractor to operate the new call and control center. As with Alternative 5, there would be divided accountability, though the division of responsibilities would be different. As with Alternative 5, there would issues of software compatibility to resolve.

Figure 6-2 summarizes the benefits and issues connected with each of alternatives.

Figure 6-2 | Potential Annual Operating Cost Savings and Issues by Service Model Alternative

| Alternative | Potential Annual Operating Cost Savings* | Customer Service Benefits | Issues |
|---|---|---|---|
| 1. Revised Service Region Boundaries | None | None | |
| 2. Revised Number of Regions | None | None | |
| 3. Targeted Inter-region Operation | To be determined | To be determined | Depends on analysis of specific targeted destinations. |
| 4. Core Overlap Area | $4.4 million (3.9%) | One call per roundtrip to and from Core Area | Long lead time given new West Central Contract.<br>Potential for customer confusion: Core Area customers would need to determine which contractor to call.<br>Possible reduced productivity within the Core Area. |
| 5. Centralized Call Center | $1.8 million (1.6%) | One call per roundtrip | Untested new function and potential new contractor<br>Divided accountability<br>Software compatibility issues |
| 6. Centralized Call and Control Center | $4.3 million (3.8%) | One call per roundtrip | Highest risk alternative<br>Extreme dependence on control center contractor<br>Untested new function (more than Alternative 5) and potential new contractor<br>Divided accountability<br>Software compatibility issues |

*Based on the FY 2017 budget.

Capital costs are not included in the discussion to this point. The principal capital cost borne by Access is for purchase of vehicles. The number of vehicles needing to be replaced and added fluctuates from year to year. An analysis of fleet needs shows that the capital cost of vehicles for serving the LA Basin will average approximately $7.3 million between 2016-17 and 2021-22. The percentage reduction in vehicle hours that is the basis for the operating cost savings shown in Figure 6-2, should also reduce vehicle purchase needs by approximately the same percentage. The resulting savings in average annual capital cost of vehicles for each of the alternatives would be:

| | |
|---|---|
| Alternative 4: Core Overlap Area | $282,257 |
| Alternative 5: Centralized Call Center | $118,590 |
| Alternative 6: Centralized Call and Control Center | $278,642 |

These savings for vehicles may be somewhat offset by capital and licensing costs for software and equipment for scheduling and communications. These costs are typically small compared to the cost of vehicles. Capital costs for scheduling in particular will vary considerably depending on what decisions are made about standardizing software. If Access were to decide to enforce a requirement for a common software platform for all contractors, the agency would most likely purchase the software and hardware. This cost would be partially offset by a reduction in cost borne by the contractors, which is presumably reflected in their cost per trip. If Access did not require a common software platform, it would have the cost of creating translation or "bridge" software to allow communication between Trapeze, 5M, and (potentially) any other software that a future contractor might use.

## Implementation Steps

The recommendation for this issue is that Access should pursue implementation of Alternative 5, Central Reservations. This is the alternative that achieves the greatest combination of customer and operational benefits with a moderate level of risk. Steps toward implementing this alternative include the following:

- Review reservations software options to determine the relative merits and feasibility of a common software platform and a software bridge for reservations and ETA functions.
  - Common platform: conduct procurement to obtain Access-owned software and make all future contracts require use of this software. Establish a support function for the centralized software and related equipment.
  - Bridge: conduct procurement to develop, install, and test the bridge. Establish a support function for the bridge capability.
- Develop detail plans / specifications for the central reservations function, including confirmation of customer trip times, application of conditional eligibility, and handling routine ETA calls. Examine overlap with the existing OMC / Customer Service function and determine if a separate OMC would still be needed.
- Obtain contractor services to operate central reservations.
- Revise future service procurements to eliminate reservations and require coordination with the Central Reservations function.
- Bring individual regions under the central reservations functions as new contractors are re-procured.

# TRANSITION TO SINGLE SOFTWARE PLATFORM

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. With a common database, it would become possible 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. However, it should also be noted that the current set of contractors are very wedded to "their" software."

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.

# MONITOR NON-ADA ALTERNATIVE SERVICES

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.

In re-visiting whether or not some form a same-day service can be provided to Access Service customers, it was concluded that:

- An unrestricted same-day service would likely increase the budget by 20% to 30% based on national research; only one system that we know of (in Ann Arbor) does this.
- Accommodating same-day requests on a space available basis only would likely not work in LA because spaces available are typically filled by trips preliminarily assigned to taxi subcontractors; in short, there are few if any spaces available.
- Offering Access Paratransit customers a subsidy program as a non-ADA paratransit alternative does have some potential, not only to provide customers with a same-day option, but also provide Access with a way to decrease overall costs.

This third approach, using taxis, has been fairly commonplace in the industry over the years as an alternative offering. Some large paratransit systems (in Boston, Dallas, Ft; Lauderdale, Las Vegas) have already implemented – or are in the midst of implementing -- such programs using TNCs or a combination of TNCs (such as Lyft and Uber) and taxis.

Because both the TNC and taxi industry is volatile at the moment, and because Access already relies heavily on taxis, we recommend that Access take a "wait and see" approach before this strategy is considered further.

## OPERATIONALIZE CONDITIONAL ELIGIBILITY

Currently reservationists do not check eligibility at the time of the trip booking. Monitoring is performed by Access staff after the trip is performed. And while the eligibility of trips taken by randomly-selected conditionally-eligible customers is checked after the trip is taken, many riders with restricted eligibility are likely taking trips that they could otherwise take on fixed-route transit.

As they do in Pittsburgh and other systems, checking for specific trips for eligibility should be done as an administration function, with findings that are loaded into the paratransit software, so that reservation agents can easily know whether or not a trip is eligible. This can start at the eligibility determination process by prompting for frequent trips, and then investigating whether or not those trips would be eligible. This might include a path-of-travel review 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.

For current riders who are certified with conditional or restricted eligibility, staff can begin with checking the eligibility of subscription trips and other frequent trips taken by conditionally-eligible customers. The development of a path of travel and/or accessibility infrastructure database should be part of this effort. The more robust the database, less site visits will need to be taken over time.