New Orleans Paratransit Study

Final Report

Volume II: JP Transit / MITS

Texas A&M Transportation Institute

with

Alpha Route

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EXECUTIVE SUMMARY

1. Introduction

The New Orleans Regional Planning Commission (RPC) in collaboration with the Regional Transportation Authority (RTA) and Jefferson Parish Transit (JP Transit) retained Texas A&M Transportation Institute (TTI), along with teammates AlphaRoute and EME Consulting, to perform a comprehensive analysis of LIFT and MITS, these two agencies' ADA paratransit services. The Final Report is split into two volumes: Volume I pertains to LIFT and Volume II pertains to MITS. This report constitutes Volume II.

The study was originally commissioned as a paratransit "companion piece" to the New Links network design. But with new policies to handle inter-parish paratransit trips being implemented by both transit agencies soon after the study began, along with other reasons for not consolidating the two systems at this time, the study soon re-focused on assessments of each service and the development of recommendations that focuses on improving the service quality and service/cost efficiency and ensuring regulatory compliance of each system.

This 11-month study (March 2022-January 2023) culminated with specific, timeframe-based-specific recommendations for implementable changes to service policies and practices and for implementable changes to operational approaches (services mix, fleet mix, dedicated run structures, interagency coordination) that will help Jefferson Parish and the RTA achieve these goals.

2. Service Background and Performance

2.1 Service Background

Overseen by Jefferson Parish's Department of Transportation, the Mobility Impaired Transportation System, known as MITS, is part of JP Transit and serves to meet the system's ADA paratransit obligations. Both JP Transit's fixed route service and MITS are operated by Jefferson Parish's contractor, Transdev, under a turnkey contract, with Jefferson Parish providing the facilities and the vehicles.

MITS is operated entirely with dedicated vehicles, operated by Transdev employees, noting that a two-cab taxi companies were used a few years ago as an overflow provider to supplement the dedicated fleet. In each case, the overflow service was provided as a dedicated taxi run. There were discontinued during the pandemic as ridership subsided. Toward the end of our study, however, Transdev once again retained one of these taxis companies to operate an overflow taxi run.

Riders can book a trip from 1 to 7 days in advance. The base fare of MITS service is $3.00, which enablers a rider to go anywhere within Jefferson Parish, and since mid-March 2022 to/from Orleans Parish.

Transdev is paid based on a fixed monthly fee and variable cost fee that is based on running calculation of *annual* number of RVHs of service. RVHs for each vehicle run are measured from first pick-up to last drop-off less any significant breaks, noting that MITS schedulers do schedule lunch breaks into the driver schedules. The calculation of annual hours is calculated by (1) multiplying the number of RVHs on an average weekday during the month x 251 days; (2) multiplying the number of RVHs on an average Saturday during the month x 52 days; (3) multiplying the number of RVHs on an average Saturday during the month x 62 days; and (4) totaling the three figures to arrive at a "calculated annual RVHs." The contract then has a sliding scale of hourly rates that vary based on the calculated annual RVHs, grouped

into six groupings with a different hourly rate for each grouping. The lower the number of calculated RVHs, the higher the rate. Jefferson Parish then pays Transdev that hourly rate times the RVHs for the month in question. There is a different sliding scale of rates for the same grouping of hours for each year of the contract. Transdev pays its taxi subcontractor based on a per hour rate as well, with the amount paid, plus a markup for monitoring the service and processing invoices, passed along to Jefferson Parish.

2.2 Service Performance

According to the (pre-COVID) 2019 NTD data, MITS supplied 40,903 revenue vehicle hours (RVHs) with a fleet of propane-fueled 15 vehicles in serving 59,795 passenger trips. The operational cost of this service in 2019 was $3.1 m, which works out to unit costs of $47.52 per trip, $75.69 per RVH, both reasonable figures, and a productivity of 1.59 trips/RVH.

Ridership on MITS decreased significantly in 2020, largely as a result of the COVI pandemic, rebounding somewhat in 2021 to 77% of the pre-Covid ridership, noting that transit agencies across the US are reported 2021 "ridership recovery" ranges of between 60% to 80%.

And despite the lower ridership, productivity has not diminished significantly – only decreasing by 3% to 1.54 passenger trips per RVH, with the number of revenue hours scaling down proportionately to the reduced ridership.

Despite the lower ridership, however, the total operating cost in 2021 is now above the 2019 level, with 2021 unit costs increasing: for example, the **operating cost per RVH increased by 45%** from $75.69 in 2019 to $109.79 in 2021, while **operating cost per trip increased by 50%** from $47.52 in 2019 to $71.13 in 2021.

In terms of service quality, the reported pick-up on-time performance (OTP) was 99%; however, 36% of trips did not have the data to calculate OTP (because of tablet communication issues). It is also important to point out that the reported on-time performance is only for pick-ups; the on-time performance for drop-offs (for trips requested based on an appointment times or a requested drop-off times) is not calculated.

3. Methodology

In addition to project management, the major study tasks performed by the TTI team included:

- Establishing a Project Advisory Committee (PAC) and keeping them advised on study findings and recommendations. The PAC, chaired by Adam Tatar of NORPC, included Jefferson Parish's Director of Transportation, Transdev's General Manager (Transdev's Operations Manager and IT Manager were frequent attendees as well) and MITS rider. Also on the PAC were RTA/LIFT management staff, a LIFT rider (who also sits on the RTA Board of Directors), and representatives from several stakeholder organizations.
- Collecting and analyzing service and cost data.
- Interview and observing MITS staff in various functional areas and discussing with MITS staff the team's analyses, findings and recommendations.
- Conducting rider focus groups, interviewing stakeholder organizations and providing fodder for a project website set up by RPC.

- Developing a service profile of MITS and assessing its performance; this consisted mostly of trend analyses or various service and cost performance metrics, as well as peer review. In addition, the TTI team conducted a detailed analysis of five focus areas: the eligibility determination function, the call and control center, software/technology, complaint management, and the Jefferson Parish-Transdev contract.
- Simulating the benefits of modifying the run structure and service mix; this was spearheaded by AlphaRoute using its optimization software tool, AlphaPlan.
- Developing recommendations.

4. Summary Findings and Recommendations

Stemming from the findings and analyses, the study's recommendations focus on strategies that are designed to improve the service/cost efficiency or service quality and to ensure regulatory compliance. Each recommendation was prioritized based on the timing of implementing the recommendation as follows:

- **Immediate** within 1 years
- **Short-Term** 2-3 years
- **Long-term** 4+ years

Findings and recommendations are discussed below are based on the following ten categories:

4.1 Organizational Structure
4.2 Policies and Practices
4.3 Vehicle Fleet, Fleet Maintenance, In-Vehicle Equipment
4.4 Technology
4.5 Booking, Scheduling and Dispatching
4.6 Run Structure and Service Mix
4.7 Safety Training
4.8 Compliance Monitoring
4.9 Complaint Management
4.10 Providing Options for ADA Paratransit Customers
4.11 Contract provisions

What follows is an abbreviated version of the major findings and recommendation s which are designed to (1) lower cost and improve cost efficiency, (2) address service quality issues, and (3) ensure compliance with regulatory requirements. A more detailed discussion of these findings and recommendations can be found in Chapter 5 of this report.

4.1 Organizational Structure

There is an inherent conflict of interest created by assigning the eligibility function and the complaint function to an operations contractor. The more eligible applicants, the more trips; the more trips, the more service hours are needed to serve the trips; and the more service hours provided, the more the contractor is paid. Based on the very low number of complaints, interviews with staff, and feedback from riders, the study team has concluded that not all complaints are being recorded. Generally, it is much more common with ADA paratransit services to not vest the eligibility function with the operations contractor because of these conflicts of interest.

Recommendation: (1) The complaint management function should be removed from Transdev's contract responsibilities and transferred to a Jefferson Parish employee or Solutient. (2) The eligibility function should also be removed from Transdev's contract responsibilities and transferred to a Jefferson Parish employee or a third-party eligibility specialist or firm. These actions can be executed via a contract amendment. **Immediate.**

4.2 Policies and Practices

Service Area and Elimination of Transfers

The current (since mid-March 2022) removal of inter-parish transfers have led to both MITS and RTA performing inter-parish trips. By adopting this policy and practice, both MITS and the RTA effectively increased their service area resulting in decreased productivity, due to the longer trips, and service duplication.

Recommendation: To reduce (if not eliminate) service duplication, one of the following changes in policy should be made, noting that any changes should be discussed and planned in advance with RTA/LIFT management. Scheme #1: The customer calls the system responsible for the area in which the trip originates. So, if a rider lives in Jefferson Parish and works in Orleans Parish, the customer would then call MITS for the going trip and LIFT for the return trip. Scheme #2: The customer calls the system based on residence, arranging for the entire round trip with that agency. In addition, any planning pertaining to this recommendation should be done with JP Transit staff. **Short-term.** At the last PAC, RTA indicated that it was favoring Scheme #1 and that inter-agency coordination and the final plan for inter-parish ADA paratransit service would be set forth in an inter-agency Memorandum of Understanding (MOU). JP Transit/Transdev management agreed that cooperative planning and an MOU would be a good idea.

Eligibility Determination

MITS' eligibility determination process relies solely on a review of applications. There have been numerous studies in the industry which have concluded that a 100% paper review process is the most lenient/inclusive of the certification approaches and results in many more applicants being deemed eligible. In-person interviews end up resulting in applicants self-selecting out. And the use of functional assessments and FACTS testing is also a much proven way of accurately determining eligibility, and in particular, conditional eligibility. In-person interviews and functional/FACTS assessments provide greater clarity and accuracy in determining applicants who are truly ADA paratransit unconditionally or conditionally eligible.

Recommendations: Jefferson Parish or its contracted eligibility determination specialist/organization (see Section 1) should require in-person interviews for all applicants and functional/FACTS assessments as necessary. Such interviews and assessment should also be a part of recertification. **Immediate.**

Advance Reservations

The biggest shortcomings of the booking process, alleged by all of the riders participating in the focus group, is the non-compliant practices of (1) directing riders to call 7 days in advance if they have any hope of getting a trip when they want, but also (2) directing riders not to request trips during high demand times. For ADA paratransit services, riders must be able to call the day before to arrange for a

trip. To us, this strongly suggests a capacity constraint, which was further confirmed by the study team's run structure analyses (see below).

Recommendation: These practices should cease. If trip negotiations wind up without a solution, call center staff should record the trips requests as a denial. Patterns of denials are one of several indicators of a capacity constraint. The practices above mask the problem. **Immediate.** At the last PAC meeting, MITS management reported that it has re-trained its call and control center staff accordingly.

Pick-Up Times and On-Time Performance

While Trapeze does have the capability to suggest solutions to calculate a pick-up time for trips based on a requested drop-off time or stated appointment, this feature is not being used by MITS. For those riders who do provide an appointment time or a requested drop-off time, the MITS procedure is to input a pick-up time that is 30 to 60 minutes beforehand (depending on distance), or earlier if the trip crosses the Mississippi River. However, when this is done, the requested drop-off time/ appointment times is lost i.e., (not recorded). So, if there are unforeseen delays, neither the dispatcher nor the driver has a documented understanding as to when the rider needs to be at his/her appointment.

Yet another shortcoming relates to the pick-up window confirmation. The quoted window is always based on the requested (or calculated or negotiated) pick-up time. This is a highly unusual practice. If the scheduled trip pick-up is different from the confirmed pickup time, the rider and driver have different expectations for the pick-up arrival and on-time performance and can trigger no-shows and later arrivals at a destination. The practice also results in limiting the flexibility to serve the trip on time.

The on-time performance standard in Transdev's contract is 88%. A more common industry standard for ADA paratransit is 90%.

Recommendations: (1) At a minimum, appointment times or requested drop-off times should be noted in the notes field. (2) MITS reservation agents should book trips based on appointment times or requested drop-off times for trips so requested. (3) With this change, on-time performance for such trips should be based not only on the vehicle arriving during the confirmed pick-up window but also arriving at the destination by the requested drop-off time. (4) MITS should also establish a drop-off window, such as -15/0 minutes, to address early dop-offs. (5) Confirmed pick-up windows should be based on the Trapeze solution accepted. (6) Via an amendment, the contractual on-time performance standard should be changed to 90%, noting recommendation #3 above. **Immediate.**

Subscription Trip Policy

Subscription trips, currently reflecting 40% of the trips served, are defined by MITS as trips taking place at least 3x per week. If there are no capacity constraints, MITS can schedule as many subscription trips as it wishes, noting that subscription trips tend to result in increased productivity and on-time performance and reduce the number of calls coming into the call center.

Recommendation: After other recommendations to address capacity constraints are implemented and are proven successful, MITS management may revisit the policy of limiting subscription trips to those that run a minimum of 3x per week. The RTA for example, allows subscription trips that run once a week. **Short-term.**

No Show/Late Cancellation Policy and Subscription Trip Cancellation Policy

MITS has a reasonable no-show/late cancellation policy, but it is not being managed. Reducing the number of no-shows and late cancellations will have a positive impact on both productivity and on-time performance. MITS does not have a policy for an unreasonable number of subscription trip cancellations. As an example, RTA's policy states that cancellations of subscription trips in excess of 20% will result in cancellation of the subscription trip, although the period of time in which this calculated is not specified.

Recommendation: JP Transit should add a subscription service suspension policy and begin pursuing riders suspensions based on its existing no-show/late cancellation policy and the new subscription cancellation policy. In conjunction with this, correspondence should go out to all riders that this will now be managed in earnest in an effort to improve on-time performance. **Immediate.**

4.3 Vehicle Fleet, Fleet Maintenance, In-Vehicle Equipment

Vehicle Fleet

The current propane fueled fleet comes with some operational issues, as vehicles can be stressed during warmer weather due the energy needed to run the vehicle systems (particularly the air conditioning). On hot days, it is not uncommon for the MITS vehicles to stall out at a stoplight or even within an intersection. These events pose a potential safety issue if vehicle-stalling happens at a bad moment and causes the vehicle to become involved in a collision.

All propane fueling of the vehicles is done on-site at the East Bank facility, where JP Transit has a large propane tank installed. Maintenance staff do the fueling of the propane vehicles at the ending/beginning of the day or when drivers come in for break in the middle of a run.

While MITS management does not view either issue as major, fueling can present a logistical issue during hurricanes due to the inability to fuel the vehicles elsewhere. Not too that storing the entire fleet at the facility Jefferson Parish Transit facility in Metairie, largely because of the central fueling needs, results in long deadheads to trips originating on the West Bank.

Recommendations: (1) Consideration should be given to replacing the propane vehicles with diesel or gasoline fueled vehicles during the next procurement cycle (2023). (2) In replacing the vehicles and to save cost and perhaps improve the quality of the ride for some riders, Jefferson Parish should also consider diversifying the fleet to include smaller Ford Transits (with 1 w/c position), larger vehicles (similar to the current vehicles), and sedans/minivans. (3) If the run structure and service mix recommendations do not totally address the capacity constraints, Jefferson Parish should also expand its vehicle fleet to allow for a 25% spare ratio. **Short-term.** (4) Transdev should experiment with staging some of its MITS fleet at JP Transit maintenance facility in Gretna to reduce deadheading. **Immediate.** At the last PAC meeting, MITS management indicated that they were planning to test recommendation #4.

Fleet Maintenance

The Transdev maintenance manager commented that the certain vehicles from the current vehicle fleet were incurring many more miles than others, resulting in inconsistent aging.

Recommendation: Transdev should develop a plan to rotate vehicles among runs so that mileage across the fleet accrues more evenly. **Immediate.**

MDTs and Tablets

Driver tablets are essential for dispatching and data collection. Operational issues, with vehicles going out without working driver tablets, are occurring because (1) there are not enough backup tablets, and (2) the maintenance staff has been reluctant to learn how to switch out a SIM card of a malfunctioning tablet, leaving this task instead up to the IT manager, who reports for work after vehicle pullout. MITS management also stated there has been some mismatch issues since there was a Transdev corporate decision to move from Verizon to T-Mobile as the wireless vendor, the mismatch occurring between the tablets that worked fine under Verizon but less so with T-Mobile. Because of these issues, approximately 36% of the trips served during the first half of 2022 did not have the data to establish whether a vehicle was on-time or not.

Recommendations: (1) The function of swapping out SIM cards should be a maintenance function, and the maintenance staff should be trained accordingly and directed to fulfill this function. (2) A tablet should be mounted in all of the COA vehicles so that communication is possible when they are deployed as backup vehicles for MITS service. (3) Transdev should purchase a sufficient number of tablets (including spare tablets and sim cards) and consider switching wireless vendors back to Verizon. **Immediate.** At the last PAC meeting, Transdev management indicated that it had already implemented all three recommendations.

4.4 Technology

Trapeze PASS Scheduling/Dispatching System

Trapeze is the software Transdev uses for reservations, scheduling, dispatching, collecting data and reporting. All trips are scheduled one at a time, mostly as the trip request is booked. However, no subsequent batch optimization is conducted. Not batching trips scheduled in advance is somewhat unusual. The problem arises when a system-generated solution for a trip entered 7 days before the trip date is suboptimal by the day before the trip date as a result of other trips scheduled and cancelled in the interim; indeed, this is the reason for automated batching. In interviews, call and control center staff indicated they did not batch schedule trips because the results were suboptimal. In our investigation, the study team determined that Trapeze's scheduling parameters for MITS are controlled Transdev corporate staff, and it is likely that they were never tuned to JP Transit goals or to the general characteristics of Jefferson and Orleans Parish.

Recommendations: (1) MITS staff should retain and work with a Trapeze expert to review and adjust scheduling parameters implement new job agent batch for optimizing future day and service-day schedules, and to learn how to better manage Trapeze. (2) MITS dispatchers should utilize Viewpoint as a real-time dispatch tool as well as a resource for exception-based data management (i.e., trip reconciliation). (3) Jefferson Parish should consider acquiring PASS-WEB G3 so that customers can review, cancel (and eventually book) trips without having to contact MITS staff by phone. (4) Jefferson Parish should also consider upgrading the Trapeze software to Version 21 (V21), which provides a much more robust and MUCH better-designed dispatching function) and paves the way to moving Trapeze to the cloud. **Immediate.**

Replace Trapeze?

There are now several alternatives to Trapeze, some emerging from the on-demand technology vendors but that are now proven at ridership levels equal to or larger than MITS. Indeed, several transit systems are using these software systems to support both their microtransit and ADA paratransit services in cases where they operate microtransit solely or partially with dedicated vehicles or where the two services are consolidated.

Recommendation: JP Transit should keep its eye out for how the new products are faring elsewhere. If Trapeze ultimately proves to be too expensive, JP Transit can always conduct an RFP or RFI procurement effort to see about capabilities and cost, and then decide whether to keep or replace Trapeze based on the responses. **Long-Term.**

4.5 Booking, Scheduling, and Dispatching

Booking

There are booking issues related to (1) scheduled vs. confirmed pick-up windows, (2) not booking a trip based on a requested drop-off time or appointment time and not tracking the on-time performance of such trips, (3) directing riders to call 7 days in advance if they have any hope of getting a trip when they want, and not to request trips during high demand times, and (4) not tracking denials and missed trips correctly.

Recommendation: All four of these practices should be corrected as soon as possible. **Immediate.** At the last PAC meeting, MITS management indicated that they had already addresses the third issue above.

Scheduling

MITS' scheduling and dispatching staff do not use Trapeze's batch scheduling function to optimize a schedule. Indeed, there is very little effort to revise the initial scheduling of trips, once a trip has been initially scheduled, leading up to the day of service. A trip scheduled 7 days in advance may no longer be in the optimal place in a schedule given trips that are subsequently scheduled or cancelled. Cancellations can often result in holes in the schedule, or a sequence of events in a driver's schedule that no longer makes sense. Many transit agencies use batch scheduling to optimize the schedule, as well as to run specific scheduling processes, such optimizing just their wheelchair trips a few days out, optimizing the next-day's schedule, with different constraints for different job agents as the "scheduling day" progresses, and even service-day optimization. But MITS is not taking advantage of these capabilities.

Recommendation: (1) Once Trapeze's scheduling parameters are properly tuned, MITS staff, with the help of a Trapeze expert, should develop and deploy various job agents to re-optimize trips on the days leading up to the trip date, and at the very least, on the day before the trip date. (2) Once this has stabilized, MITS staff should also consider implementing a service-day (continuous dynamic) optimization job agent. **Immediate.**

Subscription Trips

With subscription trips changing or ending from time to time, it is important that the scheduling of the subscription trips on these master schedules be reviewed frequently (ideally, once a month) in order to determine if the scheduling still makes sense. The greater the percentage of subscription trips, the more influence they have on the overall productivity of the services. Currently, there is no regular systematic process for reviewing the efficiency of the scheduled subscription trips.

Recommendations: MITS Operations Manager should systematically review the efficiency of the scheduled subscription trips once a month. Once the underlying issues with Trapeze are resolved, a separate job agent for optimizing subscription trips can be used as a tool in a test area for identifying possible revisions. **Immediate.**

Dispatching

During our visit and recognizing that the call and control center staff as down one person, the same staff that were performing reservations and scheduling also were performing dispatching , all at once. This overload of responsibilities also limited the amount of proactive dispatching that was occurring during our visit. We were told by management that when there is a full complement of three staff, one person is designated as the dispatcher, with the other two teaming up on handling calls and real-time scheduling.

Dispatching is a strength at MITS. In observing dispatching, we noticed several instances where the MITS staff was on top of things and communicated well with the drivers. We did find it a bit unusual though that the staff, when in dispatching mode, did not routinely consult the map in Trapeze (in response to a no-show request from a driver, for example) to determine whether the vehicle was in the right place. Also, the staff was not tagging certain denials as denials and was unaware of the missed trip disposition for a trip not completed and was unaware of the primary difference between a missed trips and a no-show.

Recommendations: (1) Jefferson Parish or Transdev should consider investing in a wall screen or designated monitor where real-time locations of vehicles can be viewed. (2) MITS call center staff should be re-trained as to the definitions of denials and missed trips and how to designate those trip dispositions in Trapeze. (3) Transdev should also strive to hire a sufficient number of staff to enable one staff to as the designated dispatcher. **Immediate.** (4) Once Trapeze's scheduling parameters have been tuned and tested, Transdev should implementing continuous dynamic optimization on the service day will relieve this person of proactive dispatching. **Short-term.**

4.6. Run Structure and Service Mix

The conclusion of the run structure analyses and scenario simulations was that there are opportunities to shift surplus hours to times where they are needed, and that the use of non-dedicated service providers would help augment the supply of service to help address capacity constraints. Both of these actions also have the potential to reduce costs.

Recommendations: (1) Implement the changes to the run structure reflected in Scenario 1 while other recommendations from the report are implemented and evaluate actual changes to productivity and on-time performance. **Immediate.** (2) Once performance has stabilized, gradually re-optimize shifts (per Scenario 2) at least twice a year or whenever driver picks are done. We do not advise moving to the optimal solution right away, but slowly reducing total service hours. Ongoing and frequent monitoring of both changes in productivity and OTP will be key here, noting that Jefferson Parish needs to define its desired balance of these two metrics. **Short-term.** (3) Once performance has stabilized, MITS management should contact possible partners to discuss their willingness to provide "overflow" ADA paratransit trips on a non-dedicated basis and to determine whether or not they can provide wheelchair accessible service (not necessary but helpful). Any driver serving ADA paratransit will need to be trained to proficiency and drug and alcohol tested). Based on the NDSP partners' available capacity, MITS should pilot an effort where 4% of the trips are outsourced to the NDSP partners, noting that this pilot would involve supplying the "ADA-paratransit certified drivers" with the same tablets used by MITS drivers. If none wish to participate as such, there are national TNCs such as UZURV that do have ADA paratransit certified drivers and NEMT carriers whose drivers are likely drug and alcohol tested and specially trained. We do not recommend replacing any dedicated vehicles with this strategy though, at least initially. Thus initially, the use of NDSPs should be viewed as a low-cost way to augment the supply of service, especially at key times. Based on the results from the pilot, MITS can then increase the percentage of trips outsourced, assuming willing partners with sufficient capacity, and possibly gradually reduce the number of dedicated vehicles as suggested by the simulation results. **Short-term to long-term.**

4.7 Safety Training

The industry standard for both transit and paratransit is 1 preventable accident per 100,000 total vehicle miles. MITS' preventable accident frequency for 2021 was 1.5 preventable accidents per 100,000 total vehicle miles.

Recommendations: Steps should be taken by the Transdev's safety trainers to analyze the types of preventable accidents, trace the accidents to their root cause, and revise the driver training curriculum to address the root causes. **Immediate.**

4.8 Compliance Monitoring and Capacity Constraints

From the study's run structure analyses, booking policies. And customer feedback, It would appear that patterns of capacity constraints do exist, which is violation of FTA requirements for ADA paratransit service. Also, MITS does not have in place practices to identify and analyze relevant metrics to determine whether or not such patterns exist, which is also a compliance issue.

Recommendation: MITS should develop a process for periodically (once a quarter) analyzing whether or not patterns of denials, late trips, missed trips, excessively long trips, and telephone access issues exist and whether those patterns point to a capacity constraint. **Immediate.**

4.9 Complaint Management

Complaint management is the responsibility of Transdev. Generally, an operations contractor should not be responsible for complaint intake and management given the obvious conflicts of interest.

Recommendation: The complaint management function should be removed from Transdev's contract responsibilities and transferred to a Jefferson Parish employee or Solutient. **Immediate.**

4.10 Providing Options for ADA Paratransit Customers

Currently, the demand for ADA paratransit service is outstripping the supply of service. Re-deploying dedicated vehicles and augmenting the fleet with non-dedicated service providers, as recommended above, should mitigate – but may not totally solve – the mismatch. One solution is to provide more service, which increases cost. Another solution, which reduces cost, is to "divert" trips to a broader array of lower-cost NDSPs—taxis and TNCs – whose drivers are not ADA-paratransit certified. There are two ways to do this.

Alternative Service

The first way is to offer an "alternative service." This is an on-demand service that MITS would offer to their ADA paratransit customers and that is provided through NDSPs such as taxis and TNCs. In such a program, riders request service directly from the service providers. Note there would need to be a wheelchair accessible vehicle (WAV) service option to achieve the ADA-required service equivalence, sometimes accomplished through subcontracts with WAV operators. In the end, the MITS would reduce overall costs if the savings from the diverted trips is greater than the subsidies paid to the service providers to serve newly induced trips (that would otherwise not have been made on MITS). TCRP Report 239 on Alternative Services, just issued on January 25, 2023 and co-authored by TTI's project manager, is a great source for different models.

Rider Opt-In Program

The second way is through a rider opt-in program. In such a program, LIFT riders (who wish to) sign an opt-in agreement that would give the JP Transit a blanket permission to assign an ADA paratransit request to a TNC, taxi or other type of carrier under contract that does not use drivers (independent contractors) who are drug and alcohol tested and not trained to proficiency. In effect, this means that JP Transit would be able to convert, with the rider's permission, an ADA paratransit trips to a non-ADA paratransit trips. The rider fare would be the same as the MITS fare. And riders would maintain the option to "opt-out" for any particular trip. Through such a program, the JP Transit would not only be serving these trips at a lower cost but would also improve the productivity of the dedicated MITS fleet by assigning to the TNCs the trips that would otherwise adversely impact the productivity of the dedicated fleet.

Recommendation: MITS should conduct/commission a feasibility for a pilot that combines an alternative service and an opt-in program. Such a combined program has been successfully piloted in Boston by the MBTA. As was done in Boston, we suggest first implementing an alternative service pilot, and then weaving in the opt-in program. **Short-Term.**

4.11 Contract Provisions

10.1 Complaint Frequency Ratio Standards; Complaint Management and Investigation

There are no penalties prescribed for not meeting these complaint response turn-around time, nor are there any prescribed periods for which penalties over and above the prescribed standard apply. While it may be assumed that this is tracked per month, with penalties assessed on a monthly basis, this is not specified in the contract. The other shortcoming of this provision is that the not-to-exceed 10 complaints per 100,000 trip standard applies to all services (fixed route and paratransit). The complaint frequency ratio (CFR) for ADA paratransit services is generally measured by the number of complaints per 10,000 passenger trips. A commonly used CFR score for ADA paratransit is: Excellent (under 10); Good (10-19); Acceptable (20-29) and Poor (30 and above). Having different CFRs for fixed route vs. paratransit is a common practice and does not conflate the two.

Recommendation: (1) Jefferson Parish should establish a new threshold for CFR, where CFR's under 10 earn the contractor an incentive bonus and CFR's over 30 trigger a penalty/liquidated damage, and where the CFR is calculated over a specified time (e.g., monthly or quarterly). (2) While the intake and management of complaints should be removed from Transdev (see Section 1.0 recommendations), this does not absolve Transdev from contractual obligations to investigate and respond to Jefferson Parish (or Solutient) in a timely manner. We recommend a standard turnaround time of 7 calendar days be added to the contract. **Immediate.**

10.2 Call-Taking Standards

Section 9 of the contract establishes an average call hold-time standard of no more than 2 minutes and a penalty of $100 per day per standard for days when a standard is not attained. The 2 minute standard for a not-to exceed average hold time is a fairly commonplace standard; however, it does not bring to light patterns of call center capacity constraints as discussed earlier in this report. In addition, no maximum hold times are specified.

Recommendation: (1) Jefferson Parish should modify the two minute standard and associated penalty to apply to any hour in the day. With this modification, Transdev will staff the call center in a way will thwart patterns of access issues. (2) Jefferson Parish should also establish an additional standard, that for longest hold time, which is a standard telephone MIS metric. We suggest that the longest hold time for any given hour be set at 5 minutes, with a similar $100 penalty assessed for each hour where there is a longer hold time. (3) We recommend that Transdev provide Solutient with all daily (hour by hour) telephone reports and that Solutient be given the responsibility for identifying patterns of access issues, based on the stated standards. **Immediate.**

10.3 On-Time Performance Standard and Penalties

Section 11 of the contract includes a new provision on-time performance standard for MITS of not less than 88%. Most ADA paratransit services have OTP standards of 90% or above. Section 11 also adds a penalty of $1,000 if the on-time standard is not achieved in a given month.

Recommendation: (1) Jefferson Parish should increase the standard from 88% to 90%, again noting a previous recommendation regarding the expansion of on-time performance calculation to include the drop off time for trips request by drop-off or appointment times. (2) To address patterns of late trips, we recommend changing the penalty to $10 per late trip and $100 per day if the on-time standard is not met. (3) We recommend that Transdev provide Solutient with raw trip data from Trapeze and that Solutient be given the responsibility for verifying Transdev's reported late trips and for identifying patterns of late trips, based on the stated standards. **Immediate.**

10.4 Maximum On-Board Travel Time Standard and Penalties.

Section 11 of the contract also specifies a standard for a not-to-exceed on-board travel time of 75 minutes, with a penalty of $50 for each event. The threshold seems reasonable given that the average OBT time ranges between 15.5 and 21.5 minutes depending on the day of the week. It is not evident though that this is being tracked – or tracked correctly, with penalties assessed.

Recommendation: (1) We recommend that Transdev be required to provide raw trip data to Solutient and that Solutient be given the responsibility to check for trips exceeding 75 minutes in duration. (2) We also recommend that Solutient be given the responsibility for identifying patterns of excessively long trips as compared to similar trips made on fixed route transit. **Immediate.**

10.5 Missed Trip Standard and Penalties

Section 11 of the contract also establishes a penalty of $200 for each missed trip but does not define what a missed trip is. All five definitions of a missed trips should be included. When MITS staff was queried about why there were so few missed trips (only 3 in four years), it was clear that the staff did not have a grasp of all of these definitions. At the same time, missed trips are not always avoidable, a common standard is 0.5%.

Recommendation: (1) We recommend that a contractual standard of no more that 0.5% missed trips be established and that the $200 penalty apply to each missed trip over that standard. (2) We recommend that Transdev be required to provide raw trips data to Solutient, and that Solutient be given the responsibility for identifying missed trips that have been mislabeled. We also recommend the addition of a $200 penalty be assessed to Transdev for each missed trips that has been mislabeled. (3) We also recommend that Solutient be given the responsibility for identifying patterns of missed trips. **Immediate.**

10.6 Denials

MITS staff recorded 1639 denials in 2018 and 35 denials in 2021. Denials happen with ADA paratransit. However, *patterns* of denials are not permitted under the ADA, as they are yet another indicator of capacity constraints. A common not to exceed standard for denials is 0.1%.

Recommendation: (1) We recommend that Jefferson Parish add to the contract a not to exceed standard for denials of 0.1%, and $50 per denial penalty for each denial that exceeds this threshold. (2) We also recommend that Transdev provide Solutient with telephone recording of trips being booked, with a $200 penalty for each denial that is not recorded as such. (3) We also recommend that Solutient be given the responsibility for identifying patterns of denials. **Immediate.**

10.7 Productivity Standard and Penalty

In the contract amendment we reviewed (and that addressed performance metrics and standards), we did we did not see a standard for productivity, although we were told in an interview that a standard of 1.8 is in place. Productivity standards and accompanying incentives and penalties are necessary to establish the balance between on-time performance and service/cost efficiency.

Recommendation: (1) If it is not already in the contract, we recommend that Jefferson Parish add to the contract a productivity standard of 1.8 passenger trips per revenue vehicle hour. (2) We also recommend an associated penalty of $1,000 for each month that productivity dips below 1.8, and a $1,000 incentive bonus for each month where productivity exceeds 2.0 trips per month. **Immediate.** (3) Based on experience and changes to policies that impact productivity, Jefferson Parish should add a provision that it has the right to change these thresholds with suitable advance notice to Transdev.

10.8 Subcontractor Rates.

Section 14 of the contract provides for subcontractor rates per revenue vehicle hour, implying that what is being purchased is not non-dedicated service but dedicated service, with the taxi subcontractor operating a dedicated run onto which trips are assigned. Most transit agencies or prime contractors that use taxi contractors utilize taxis and other providers on a non-dedicated basis, with payment based on the metered (or a negotiated distance-based) rate, or a per trip rate where trips assigned to the taxi are relatively homogenous in character. This alleviates not paying for service during slack time. It also provides for utilizing taxis when they are most needed, i.e., during the peak, or replacing unproductive runs in low-demand areas or at low-demand times. While taxi contractors may sometime require a minimum number of trips per day, and based on interviews with Transdev staff, this appears to be the case, such a requirements should not be interpreted as a call for dedicated service..

Recommendation: (1) We recommend that the cost to Transdev for non-dedicated service provision be based on established meter rates and that the cost invoiced by the taxi company to Transdev be passed through to Jefferson Parish, also allowing for a modest processing fee. (2) We also recommend that when Transdev outsources a trips to taxi company, it does so by establishing the cost from serving that trip, which Transdev (using Trapeze) can pre-calculate based on direct travel distance and the taxi company's rates. (3) The passed-though costs from the taxi company may also include no-show fees as negotiated between Transdev and each taxi company.

CHAPTER 1: INTRODUCTION, BACKGROUND, METHODOLOGY AND REPORT ORGANIZATION

1.1 Introduction

The New Orleans Regional Planning Commission (RPC), in collaboration with Jefferson Parish Transit (JP Transit) and the New Orleans Regional Transportation Authority (RTA), retained Texas A&M Transportation Institute (TTI), along with teammates AlphaRoute and EME Consulting, to perform a comprehensive analysis of MITS and LIFT, these two agencies' ADA paratransit services. The Final Report is split into two volumes: Volume I pertains to LIFT and Volume II pertains to MITS. This report constitutes Volume II.

The study was originally commissioned as a paratransit "companion piece" to the New Links network design. But with new policies to directly serve inter-parish paratransit trips (without having to transfer) implemented by both transit agencies soon after the study began, along with other reasons for not consolidating the two systems at this time, the study soon re-focused on assessments of each service and the development of recommendations that focuses on improving the service quality and service/cost efficiency and ensuring regulatory compliance of each system.

This 11-month study (March 2022-January 2023) culminated with specific, timeframe-based-specific recommendations for implementable changes to service policies and practices and for implementable changes to operational approaches (services mix, fleet mix, dedicated run structures, interagency coordination) that will help the Jefferson Parish and the RTA achieve these goals.

1.2 Background/Service Summary

Overseen by Jefferson Parish's Department of Transportation, the Mobility Impaired Transportation System, known as MITS, is part of JP Transit and serves to meet the system's ADA paratransit obligations. Both JP Transit's fixed route service and MITS are operated by Jefferson Parish's contractor, Transdev, under a turnkey contract, with Jefferson Parish providing the facilities and the vehicles.

MITS is operated entirely with dedicated vehicles, operated by Transdev employees, noting that a two-cab taxi companies were used a few years ago as an overflow provider to supplement the dedicated fleet. In each case, the overflow service was provided as a dedicated taxi run. There were discontinued during the pandemic as ridership subsided. Toward the end of our study, however, Transdev once again retained one of these taxis companies to operate an overflow taxi run.

Riders can book a trip from 1 to 7 days in advance. The base fare of MITS service is $3.00, which enablers a rider to go anywhere within Jefferson Parish, and since mid-March 2022 to/from Orleans Parish without having to transfer.

Transdev is paid based on a fixed monthly fee and variable cost fee that is based on running calculation of *annual* number of RVHs of service. RVHs for each vehicle run are measured from first pick-up to last drop-off less any significant breaks, noting that MITS schedulers do schedule lunch breaks into the driver schedules. The calculation of annual hours is calculated by (1) multiplying the number of RVHs on an average weekday during the month x 251 days; (2) multiplying the number of RVHs on an average Saturday during the month x 52 days; (3) multiplying the number of RVHs on an average Saturday during the month x 62 days; and (4) totaling the three figures to arrive at a "calculated annual RVHs." The

contract then has a sliding scale of hourly rates that vary based on the calculated annual RVHs, grouped into six groupings with a different hourly rate for each grouping. The lower the number of calculated RVHs, the higher the rate. Jefferson Parish then pays Transdev that hourly rate times the RVHs for the month in question. There is a different sliding scale of rates for the same grouping of hours for each year of the contract. Transdev pays its taxi subcontractor based on a per hour rate as well, with the amount paid, plus a markup for monitoring the service and processing invoices, passed along to Jefferson Parish.

1.3. Methodology and Report Organization

In addition to project management, the major study tasks performed by the TTI team included:

- Establishing a Project Advisory Committee (PAC) and keeping them advised on study findings and recommendations. The PAC, chaired by Adam Tatar of NORPC, included Jefferson Parish's Director of Transportation, Transdev's General Manager (Transdev's Operations Manager and IT Manager were frequent attendees as well) and MITS rider. Also on the PAC were RTA/LIFT management staff, a LIFT rider (who also sits on the RTA Board of Directors), and representatives from several stakeholder organizations.
- Collecting and analyzing service and cost data.
- Interview and observing MITS staff in various functional areas and discussing with MITS staff the team's analyses, findings and recommendations.
- Conducting rider focus groups, interviewing stakeholder organizations and providing fodder for a project website set up by RPC.
- Developing a service profile of MITS (Chapter 2) and assessing its performance; this consisted mostly of trend analyses or various service and cost performance metrics, as well as peer review (Chapter 3). In addition, the TTI team conducted a detailed analysis of five focus areas: the eligibility determination function, the call and control center, software/technology, complaint management, and the Jefferson Parish-Transdev contract.
- Simulating the benefits of modifying the run structure and service mix; this was spearheaded by AlphaRoute using its optimization software tool, AlphaPlan (Chapter 4).
- Developing recommendations (Chapter 5).

CHAPTER 2: SERVICE PROFILE

In Chapter 2, the study team documents the operating characteristics, policies, and practices of the JP Transit's MITS service, which serves to fulfil JP Transit's ADA complementary paratransit obligation. MITS's service profile includes the following sections:

2.1 Organizational Chart
2.2 General Service Design and Policies
- 2.2.1 Service Area and Regional Service Connections
- 2.2.2 Service Days and Hours
- 2.2.3 Fares
- 2.2.4 Reservations Hours and Advance Booking Policies
- 2.2.5 Subscription Trip Policies
- 2.2.6 Pick-Up and Drop-Off Windows
- 2.2.7 No-show and Cancellation Policies
- 2.2.8 Reasonable Accommodation

2.3 Infrastructure and supporting resources
- 2.3.1 Facilities
- 2.3.2 Vehicle Fleet
- 2.3.3 Scheduling System, Driver Communication and On-Board Equipment

2.4 Functions
- 2.4.1 Eligibility Certification and Customer Registration
- 2.4.2 Next-Day and Advance Reservations and Scheduling
- 2.4.3 Subscription Trip Requests, Scheduling and Maintenance
- 2.4.4 Run Structure
- 2.4.5 Dispatching
- 2.4.6 Window Dispatching
- 2.4.7 Handling Customers' Service-Day Calls
- 2.4.8 Trip Reconciliation
- 2.4.9 Vehicle Operations/Service Delivery
- 2.4.10 Driver Requirements and Training
- 2.4.11 Road Supervision
- 2.4.12 Fleet Maintenance
- 2.4.13 Reporting
- 2.4.14 Complaint Management
- 2.4.15 Compliance Monitoring – Capacity Constraints

2.1 Organizational Chart

JP Transit's organizational structure for MITS is shown in Figure 1. The Transdev contract is overseen and monitored by Jefferson Parish's Transit Director. The management and operation of MITS is under the Transdev General Manager, who is responsible for JP Transit's fixed route service.

Under the General Manager is the Operations Manager, who oversees the four call center functions (reservation, scheduling, dispatching and handling service day callas from customers), service delivery and road supervision. The call center includes 5 individuals who perform all 4 functions. Service delivery is performed by 22 full-time and 2 part-time paratransit operators. And there are 6-1/2 road supervisors who perform road supervision for both transit and paratransit.

Also under the General Manager are the three Managers of Safety, Maintenance and IT, respectively, the Eligibility Specialist, and an Administrative Clerk.

Under the Maintenance Manager are 4 mechanics who work on both transit and paratransit vehicles at the Metairie maintenance facility and 3 mechanics at the maintenance facility in Gretna who primarily work on transit

2.2 General Service Design and Policies

2.2.1 Service Area and Regional Service Connections

MITS serves urbanized Jefferson Parish and a limited area of Orleans Parish. Urbanized Jefferson Parish includes the Eastbank, all developed areas north of the Hero Cutoff on the Westbank, and the Lafitte area. Areas served in Orleans Parish include Delgado Community College, the New Orleans Central Business District, and the Medical Center/Tulane medical complex. Figure 2 presents the MITS System Map, as it currently appears in the MITS Rider Guide. This map may need updating.

Up until mid-March 2022, MITS customers could also access destination is Orleans Parish arranging for MITS to transport to the rider to one of three transfer points and by arranging for a Lift vehicle (LIFT is the ADA paratransit service serving Orleans Parish) to meet them at the transfer point. These three transfer points were (1) Delgado Community College and (2) Oschner Back Atrium Area on the East Bank, and (3) the Gretna/Wilty Terminal on the West Bank. Since mid-March riders making inter-parish trips now have the option to call either MITS or Lift to provide service directly to their destination in Orleans without a transfer.

2.2.2 Service Days and Hours

On its website, Jefferson Parish states that MITS' service hours are the same as its fixed route transit service hours, which are 4:30am-10:30 pm on weekdays, 5:30 am to 10:30 pm on Saturdays, and 6:30 am to 10:30 pm).

Currently, and especially with the elimination of transfers in March, there have been no early morning requests, and hence, the morning pull-out of all 15 vehicles happens at 6:00. These are all straight-shift runs of 11.5 and 12 hours, and so the evening pull-in to the yard in Metairie between 5:30 and 6:00 pm. Should there be a request for early morning or evening service, MITS will make an adjustment on that day.

Figure 1: JP Transit's Organizational Structure of MITS

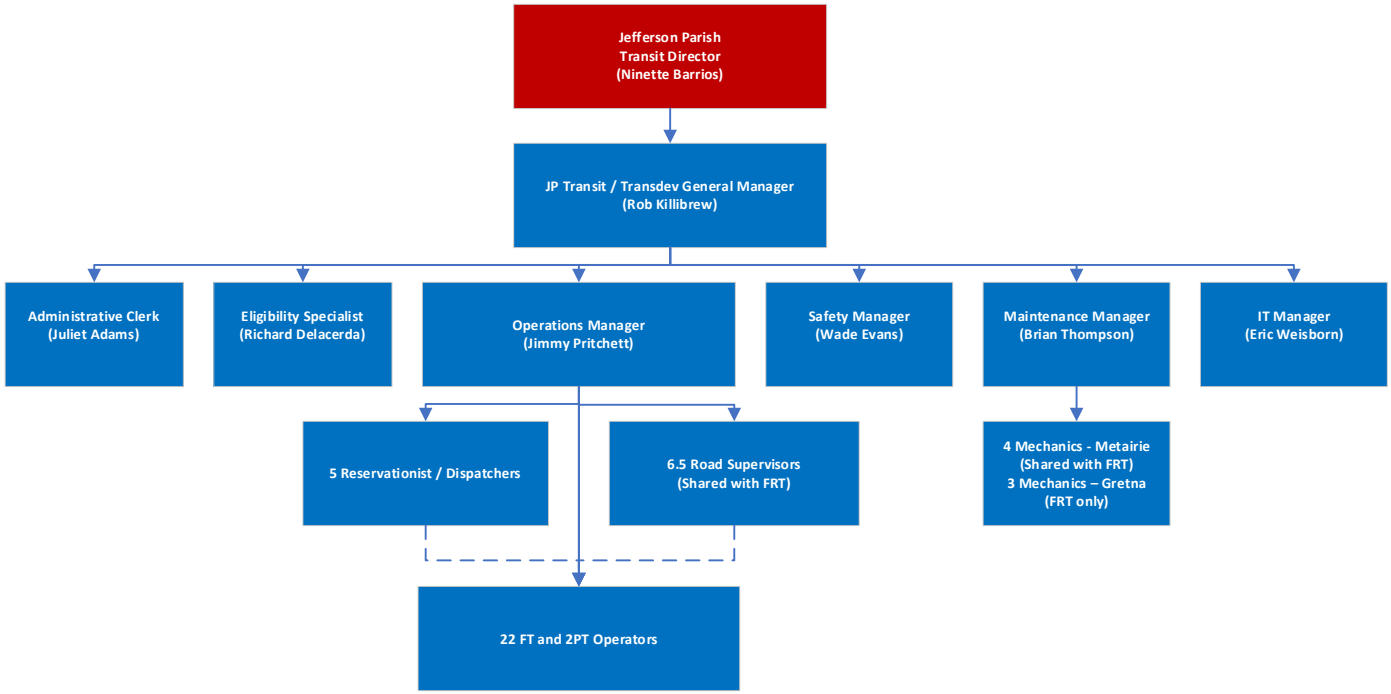


Figure 2: MITS System Map

Required ADA Service Area
Trips begin and end within 3/4 mile of all Jet fixed routes within Jefferson Parish.

Area de Servicio requerida por ADA
Los viajes comienzan y terminan dentro de 3/4 de milla de todas las rutas fijas dentro de Jefferson Parish.

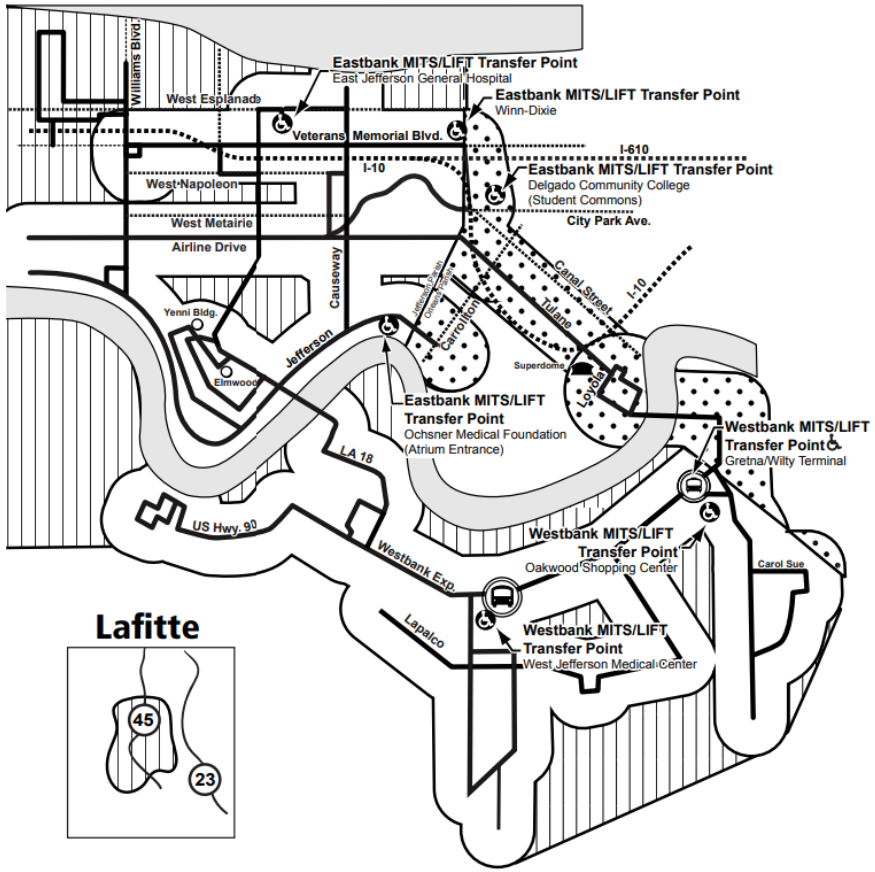
Extended ADA Service Area
Trips begin or end in the New Orleans ADA Service Area. (Trip must begin or end in Jefferson Parish.)

Area Extendida de Servicio de ADA
Los viajes comienzan o terminan en el Area de Servicio de ADA de New Orleans. (Los viajes deben empezar o terminar en Jefferson Parish.)

Additional MITS Service Area
Includes most of urbanized Jefferson Parish including Lafitte.

Area adicional de Servicio de MITS
Incluye la mayor parte del área urbanizada de Jefferson Parish, incluyendo a Lafitte.

MITS
SYSTEM MAP



2.2.3 Fares

The base MITS fare is $3.00, which will get a rider anywhere within the MITS service area. Note that JP Transit bus fare for adults is $1.50 for most trips and $2.00 across Crescent City bridge, and so the MITS fare falls within ADA paratransit guidelines (i.e., not more than twice the adult local bus fare).

For transfer trips (up through mid-March 2020), riders would need to spend an addition $2.00 (the base fare for LIFT) to get to their final destination in Orleans Parish. Since the elimination of transfers, it costs riders $3.00 if they use MITS to make a trip into Orleans Parish.

Fares are paid in cash.

2.2.4 Reservation Hours and Advance Booking Policies

The reservation hours for MITS are daily from 8:00 am to 5:00 pm. Riders can book a trip from 1 to 7 days in advance; same day service may also be requested but will only be accepted on a space-available basis.

Riders can book a trip from 1 to 7 days in advance; same day service may also be requested but will only be accepted on a space-available basis.

Prior the elimination of transfers in mid-March 2022, MITS Riders who required a transfer to/from Orleans Parish (before mid-March 2022) were instructed to first registered with the LIFT program, after which they could call MITS and LIFT separately to arrange for both legs of the transfer trip for the going trip and the return trip. The MITS service guide advised riders to allow at least 30 minutes between the scheduled drop-off and pickup times at the transfer point. However, because there was no coordination between the two system's dispatchers, it is unknown whether the riders heeded this advice.

2.2.5 Subscription Trip Policies

Subscription trips are also accepted; must be at least 3x per week. Upon occasion, a subscription trip that is downgrading from 3x per week to 2x per week is allowed, i.e., it is left as a subscription trip.

In the Rider Guide, it states that Federal Law limits subscription rides to no more than half of all rides scheduled in any given time period." This is not quite true. Originally, the purpose of this requirement was to ensure that there was sufficient capacity for advance-reservation trips. Since then, subsequent FTA/ADA regulations require that the ADA paratransit service exhibit no capacity constraints, as detailed in Section 3.5.14 of this document. What this means is that MITS can have as schedule as many subscription trips as it wants to, so long as they do not cause a pattern of capacity constraints. Having a policy of 50% is fine as an internal decision; the only pertinent federal requirement is that there be no capacity constraints. Currently, it is estimated by staff that 40% of the overall trips served are subscription trips.

What this means is that MITS could drop the minimum requirement for subscription trips to 2x per week or even 1x per week (as the RTA does for LIFT) as long as such a policy does not present capacity constraints. If these trips are already being served (as advance reservation trips), one might presume that no new capacity constraints would materialize as a result of such a policy change. And for some customers, this policy change would likely be viewed as a terrific benefit as they would no longer have to call in advance for each of the trips.

2.2.6 Pick-up and Drop-off Windows

The on-time pick-up window policy is +/-15 minutes based on the requested (vs. the scheduled) pick-up time given to the rider at the time that the rider books the trip. There is no policy for an on-time drop-off window (for trips requested based on an appointment time to requested drop-off time).

The contractual standard for on-time performance is 88%. Reported OTP is 99%, noting that only the pick-up on-time performance (OTP) is reported, and data that is used to calculate OTP is missing from 36% of trips based on analysis of trips data from the first 6 months of 2022.

2.2.7 No-Show and Cancellation Suspension Policies

The MITS Rider Guide states that the "Cancel Line" is open from 6:00 am to 10:00 pm and that riders may also cancel a trip between 10:00 pm and 6:00 am by leaving a voice message.

A two-hour notice is required for cancellations. If the cancellation is received within 2 hours of the pick-up window it is deemed to be a late cancellation.

MITS' no show policy is also stated in its Rider Guide. The policy is based on a point system, where one point is assigned for each no-show, and one-half point is assigned for each late cancellation.

After the first violation of either a no-show or a late cancellation, the customer will receive a written warning along with a statement outlining no-show and cancellation policies. Once a frequent user (noting that frequent is undefined) accumulates three points in a given month, the customer will be subject to a temporary suspension of 10 days. After the 10-day suspension, accumulation of three or more points during the following (second) calendar month will result in a temporary suspension of 20 days. A frequent rider who accumulates three or more points during the subsequent (third) month will receive a suspension of 30 days.

When interviewed though, staff indicated that this suspension policy has never really been implemented.

2.2.8 Reasonable Accommodation

MITS details its Reasonable Accommodation policy in its Rider Guide. FTA/ADA regulations mandate that public transit organizations make reasonable modifications and accommodations to policies, practices, and procedures to avoid discrimination, and to ensure accessibility to individuals with disabilities.

The MITS Rider Guide states how ADA paratransit customers may request (in advance) that JP Transit make a reasonable accommodation so that the individual can fully use MITS. It adds that reasonable modifications do have limitations and are not intended to cause a direct threat to the health and safety of others, create undue financial and administrative burdens for JP Transit, or constitute a fundamental alteration to a service.

2.3 Infrastructure and Supporting Resources

2.3.1 Facilities

MITS four call center functions (i.e., reservations, scheduling, dispatching, and handling customers' service-day calls) as well as all the administrative functions are located at the Jefferson Parish Transit facility at 118 David Drive in Metairie. The main maintenance facility is located across the lot at 300 David Drive. There is also another maintenance facility located in Gretna on the West Bank.

The telephone system (XIMA) provides for call groups for routing calls and for compiling telephone access statistics. For example, there are separate lines for reservations vs. dispatch, the latter used for customers to call in the event their vehicle is late (a "Where's my ride?" call).

MITS vehicles are all stored in at the Metairie complex in a lot adjacent to the administrative and maintenance facilities. The JP Transit GM mentioned the possibly of staging some of the vehicles at the maintenance facility in Gretna to cut down on deadheading for West Bank trips.

2.3.2 Vehicle Fleet

The MITS fleet consists of 18 2016 propane-fueled vehicles, all based in Metairie. These were all purchased by Jefferson Parish. Sixteen of these buses have a capacity of 8 seats and two wheelchair positions. The capacity of the other two larger vehicles is 10+2. No CDL is required for this fleet. The next procurement is due in 2023, based on a 7-year lifespan. Transdev has started to develop a retirement plan, but the plan has not been institutionalized as of yet.

JP Transit also operates 5 larger vehicles for the Jefferson Parish Council on Aging (COA), and if needed, they can be used for MITS if not otherwise in service for COA trips. However, these vehicles are not equipped with driver tablets (see Section 4.4.3 below). Moreover, drivers operating these COA vehicles are required to hold a CDL due to the size of the vehicle, meaning only a handful of MITS drivers can use them. JP Transit staff noted the COA vehicles are not intended to be used for MITS service and only put on MITS runs as a backup when a MITS vehicle is down.

The JP Transit General Manager stated that he is open to having a fleet mix and using taxis. He and his Operations Manager described an "ideal" fleet mix of consisting of ½ Ford Transits (with 1 w/c position), ¼ larger vehicles (similar to the current vehicles), and ¼ sedans/minivans. In 2017, Transdev used to use a cab company, Community Transportation, consisting of 2 drivers for overflow on weekdays. MITS would send the company 8-10 trips per day (equating to a 95%/5% MITS service mix). Transdev gave the two divers tablets, along with a printed manifest. This was discontinued when the taxi company went out of business.

2.3.3 Scheduling System, Driver Communications, and On-Board Equipment

Trapeze is used to support all call center, operational and reporting functions of MITS. One key item is the scheduling parameters which are controlled by Transdev's corporate staff and not the local IT Manager.

Agents book trips in real-time, recording the date and requested pick-up time, and using Trapeze to suggest scheduling solutions while the customer is still on the phone.

Mounted tablets with DriverMate installed, and not MDTs, along with a radio system are used for dispatcher-driver communications. The tablets are also used by the drivers to display their service manifest of events (ordered pick-ups and drop-offs), to inform the dispatchers when the driver has arrived at each stop and has loaded or unloaded the passenger (whereupon the driver "performs" the arrival). As the driver performs the arrival at each stop, the system time-stamps and geo-stamps the event and communicates this back to the dispatcher. In this way, the tablets are used to collect service information that can be used to calculate service performance statistics for monitoring and reporting. The tablets can also provide navigation assistance if desired by the drivers. Tablets are hard wired into the vehicles and are locked into the mounting device. JP Transit's IT Manager did acknowledge there have been some issues with the mounts.

JP Transit management also stated there has been some mismatch issues since there was a Transdev corporate decision to move from Verizon to T-Mobile as the wireless vendor, the mismatch occurring between the tablets that worked fine under Verizon but less so with T-Mobile. This problem may resolve itself eventually with the replacement tablets coming from T-Mobile.

The on-board equipment also includes video cameras in each vehicle which are used to document driver and/or rider behavior in the event of an incident or accident. The camera recordings can also be used for training purposes.

2.4 Functions

2.4.1 Eligibility Certification and Customer Registration

The eligibility function for MITS is performed by the Eligibility Manager, who directly reports to the JP Transit General Manager. His primary function is to process MITS applications.

The MITS application process is detailed in the MITS Rider Guide (Section II). It describes the two qualifying categories of eligibility (unlimited and conditional) while also covering temporary or intermittent eligibility and its 21-day visitor policy, and how to obtain an application.

As with LIFT, the MITS ADA paratransit eligibility application is in two parts. Part 1 is the applicant Information, and Part 2 is the Heath Care Professional Verification. The first step is for the applicant to complete and mail in Part 1 to The MITS office. Upon receipt of Part 1, the Eligibility Manager mails the Part 2 Form to the health care professional identified by the applicant.

Eligibility is determined by the Eligibility Manager based on these two forms. Once eligibility has been determined, and if the applicant is determined to be eligible, The Eligibility Manager registers the new customer in Trapeze, and send a MITS ID card and the MIOTS Rider's Guide to the new customer. The ID card has a 3 year expiration date on it, meaning that the customer needs to re-certify before the expiration date.

If the applicant is determined to be ineligible, a letter is sent explaining the determination. MITS has an appeals process similar to that of the RTA. (See Section 3.5.1)

Presumptive eligibility comes into play if a determination is not rendered within 21 days of the full application (Parts 1 and 2) being received.

Information on the number of registered and active customers was not provided to TTI.

2.4.2 Next-Day and Advance Reservations and Scheduling

The staff in the MITS call center all perform reservations, scheduling and dispatching. When fully staffed, there are 3 staff during the peak hours with one working the radio (i.e., communicating with drivers) and performing proactive dispatching and the other two handling the phone calls (for bookings, WMR/ETA calls, etc.) During our visit there were only two staff who were performing all of the functions, with the Operations Manager performing proactive dispatching.

Call center staff book trips in real-time in Trapeze, recording the date and requested pick-up time, and using Trapeze to suggest scheduling solutions, and performing trip negotiation if no solution appears. If a suggested solution falls within 15 minutes (plus or minus) of the requested pick-up time, the reservation agent schedules the trip onto that run, with the agent giving the pick-up window (+/- 15 minute based around the original requested pick-up time and not based on the estimated pick-up time.

This is a highly unusual practice where software-driven real-time scheduling, and results in limiting the flexibility to serve the trip on time. For example, if the system-scheduled pick-up time for an 8:45 requested pick-up is 8:55, the pick-up window quoted to the rider is 8:30 to 9:00 (and not 8:40 to 9:10), which leaves only a bumper of 5 minutes after the estimated pick-up time to be on-time. That said, MITS reports an OTP of 99%. Also, from the rider perspective, they may not realize that the ETA is actually 8:55 and knowing that (versus the 8:30-9:00 pick-up window they are given), may result in the particular scheduling of that trip being unacceptable, especially if they are trying to get to a destination at a certain time.

While Trapeze does have the capability to suggest a pick-up time based on a requested drop-off time or stated appointment, this feature is not being used by MITS. For those riders who do provide an appointment time or a requested drop-off time, the MITS procedure is to input a pick-up time that is 30 to 60 minutes beforehand (depending on distance) and then proceed as above. In cases where trips need to cross the Mississippi River, an earlier pick-up time is commonly entered.

Interestingly, appointments times are not designated in any way (for example, in the notes that the dispatchers and driver see). So, if there are unforeseen delays, neither has an understanding as to when the rider needs to be at his/her appointment, unless the driver happens to ask the rider. This and the way pick-up windows are defined are the two most important shortcomings of the service.

For return trips, reservation agents enter a return pick-up time for almost all trips but may schedule "will-calls" for certain riders making trips to medical appointments based on past experience. Transdev also has a no-strand policy and will serve re-emerging no-shows within an hour of receiving the call, although meeting this response time cannot always be guaranteed.

Upon occasion, Trapeze will not provide any solution even after trip negotiation. If called in on the day before the trip date, the trip will be denied, noting that there a very few such instances according to staff. If the call comes in on an earlier day, the trip request will be left unassigned. Staff will periodically look to see if these can be scheduled as a result of new holes opening up because of cancellations; however, if the trip is left unassigned, the scheduling of such trips becomes the responsibility of the MITS Operations Manager. The Operations Manager also performs the final review (and tweaking, as needed) of tomorrow's schedule.

All trips are scheduled one at a time. There is no batch scheduling. Not batching with trips being taken up to 7 days in advance and where the pick-up window (and the scheduled pick-up time) is not altered is somewhat unusual when one has a system like Trapeze with batch scheduling that can be tailored. The problem arises when a system-generated solution for a trip entered 7 days before the trip date is suboptimal by the day before the trip date as a result of other trips scheduled in the interim; this is the reason for automated batching. However, local staff are leery of batching scheduling because they are not convinced that the scheduling parameters in Trapeze are tuned to reflect the desired balance between service quality (on-time performance and on-board travel time) and service/cost efficiency. For example, JP Transit prioritizes on-time performance over service efficiency (productivity), which in part contributes to MITS-reported high OTP percentage. That said, these parameters are set and controlled by Transdev corporate staff, and local management is uncertain whether or not they have been tuned to reflect that desired balance or the general characteristics of Jefferson Parish and bridges. This is the underlying reason why batch scheduling is not used at MITS.

2.4.3 Subscription Trip Requests, Scheduling and Maintenance

subscription trips are defined by MITS as trips taking place at least 3x per week. Scheduling subscription trips onto runs is another responsibility of the Operations Manager. These are scheduled onto Trapeze's master schedules as is described in Section 3.4.3. There appears to be no regular progress to take a fresh look at the scheduling of these subscriptions in light of changes that occur from time to time.

Subscription trips represent approximately 40% of the trips delivered.

2.4.4 Run Structure

The MITS run structure on weekdays has 15 runs that pullout at 6:00 am. Twelve of these are straight shifts of 11.5 to 12 hours, with a scheduled lunch break included. These runs end between 5:30 and -6:00 pm.

The remaining three runs are split shifts, two of which has a 6:00-10:45 am component and a 1:15 to 6:15 pm component, while the third split run's afternoon component ends at 7:00. So, with the three split shifts, there is an attempt to mirror the double hump nature of paratransit demand. The extent to which the run structure mirrors the demand curve will be explored further in Task 5.

As previously mentioned, one of two runs formerly started out at 5:00-5:30 to accommodate the early morning transfer trips, but since the transfers were eliminated, these early runs were converted to a 6:00 pull-out. Still, if earlier or later requests are received, adjustments are made to that day's runs.

In a related interview, JP Transit's GM reported that there has been a concerted effort to favor on-time performance over service efficiency. As an example of this, when ridership decreased during the pandemic, the number of revenue service hours did not.

2.4.5 Dispatching

Trapeze is used to support the dispatching function. Dispatching duties include window dispatching, re-assigning trips between runs, especially in the case of call-out drivers that cannot be replaced or in the case of late-running vehicles, processing no-shows, assigning re-emerging no-shows to runs, monitoring the progress of runs, handling emergencies, assisting with driver navigation needs, and handling calls from reservation agents needing more information for WMR calls.

The same staff that performs reservations and scheduling also performs dispatching, especially with only two staff available per shift (The MITS staff is down one person). As mentioned above, there is the full complement of three staff, one person is designated as the dispatcher, with the other two teaming up on handling calls.

But with only two staff available, and both performing all functions, it can especially be challenging during certain times of the day to focus on all functions equally. For example, from 8:00 to 9:00 am on most weekdays, there is a constant barrage of calls coming in, which results in shifting the focus away from dispatching during this critical period. Still, the number of vehicles (15) is such that the vehicle to dispatcher ratio is well within acceptable limits.

But when there isn't a designated dispatcher, monitoring the vehicles progress can be a free-for-all, and so close communication between dispatching staff is essential, although, in contrast to LIFT, there doesn't seem to be as many problems with dispatchers knowing the real-time location of all vehicles

because all the tablets are generally functioning properly….when they indeed consult the map. In addition, the radios are generally functioning properly as well.

Trapeze provides alerts on the dispatching screen that highlights later-running vehicles; they are shown in red. MITS dispatcher appeared to be quite adept at determining which alerts were real and needed fixing, and which were not. Sure enough, over the time we observed the dispatching, several of the problems that were highlighted but that the dispatching staff chose to ignore resolved themselves with the performance of the next arrival.

The procedure for a no-show procedure is for the driver to wait 5 minutes, which starts at the beginning of the pick-up window should the vehicle have arrived early, and then check with the dispatcher for direction. Unlike the RTA, which tries to call customers selectively, MITS staff makes and effort to call all no-showing customers. In addition, the staff reported that they almost always make an imminent-arrival call to riders who live in apartments and cannot see the vehicle arrive.

In observing the dispatching staff, we did find it a bit unusual that the dispatching staff did not routinely consult the map in Trapeze (in response to a no-show request from a driver) to determine whether the vehicle was in the right place. One dispatcher reported that the only reason that they know that there was a no-show was because the driver said the rider was not present (excluding the possibility that the driver could be in the wrong place).

Dispatching staff was unaware of the missed trip disposition for a trip not completed and was unaware of the primary difference between a missed trips and a no-show – that being whether or not a vehicle arrives within the pick-up window or not. (See the full definition of a missed trip in Section 3.5.14)

In addition, tuning the Trapeze parameters to Jefferson Parish, as discussed earlier, will not only help with better solutions for the dispatchers as well as enable a path toward (service-day) continuous dynamic optimization.

The dispatching staff is also called into action to move trips from the run associated with the downed vehicle to another run (see Section 4.5.6 below), or if there is a driver call-out. Indeed, during our visit, there were two driver call-outs, which required the dispatching staff to re-assign roughly 22 trips to other runs as the extra-board at MITS is very lean. Thus, on the day of the visit and when all of the (back-up) COA vehicles were in use, only 13 vehicle, and not 15 , were in service. The resulting assignment of trips to already well-scheduled runs – even the best solution can be somewhat disruptive – sometimes will bring out the ire in drivers when they are routed “all over the place” in an order of events that, to the driver, defies logic, but several other drivers understood the problems that arise from driver call-outs and downed vehicles.

Lastly, during our observations, there were several instances where dispatchers were “on top of things. For example:

- We witnessed a dispatcher, when not inundated with calls and driver requests, checking progress of the vehicles (to see if any were running late) and the list of unassigned trips (to see if any holes had opened up as a result of cancellation. There was one instance where after a cancellation, the dispatcher immediately re-assigned a trip from a swamped run that was running a bit behind to the new “hole.”

- The dispatching staff also seemed to adapt well to customer "curve balls" such as an instance when a customer showed up with an "unaccounted-for" companion.
- And when a customer was trying to skirt the reservations queue by calling the dispatch line instead to book a trip, the dispatcher correctly instructed the caller to call back on the reservations line.

There also seemed to be a generally good rapport and working relationship between the drivers and the dispatching staff. For example, there was instance where a driver recommended a re-ordering of stops as the driver recognized that he would be driving right by a drop-off location and noted that there were no other issues that would preclude this. The dispatcher checked to see whether this could result in violations -- by changing the order on her dispatch screen – and approved the driver's suggestion.

2.4.6 Window Dispatching

Generally it is the Operations Manager who is responsible for assigning vehicles and drivers to runs, noting that these assignments are often recurring assignments, and coordinating the switching of vehicles if a vehicle is downed as a result of failing pre-trip inspection. Louisiana summer temperatures can play havoc with paratransit vehicle air conditioning systems. It is not unusual to be down 1-2 vehicles on any given day because of this. However, in a pinch, MITS can sometimes swap in one of 5 larger buses that JP Transit operates for the Jefferson Parish Council on Aging. However, these do not have mounted tablets, and so all the dispatching needs to occur over the radio. Also, unlike the regular MITS fleet, these larger buses require a driver with a CDL.

Occasionally, a tablet will malfunction. The quickest fix is to swap in a new SIM card; however, besides the IT Manager, no one on staff knows how to do this (despite the IT Manager's wiliness to train others on how to do this.) Consequently, the only recourse is to swap in a replacement tablet, which can be slightly more time-consuming, assuming that there are replacement tablets available. (TTI suggests that more tablets may be needed, not only for this purpose but for the COA buses.) And as mentioned previously, the JP Transit IT manager did state that there have been some issues with the mounts.

Window dispatching duties at pull-out also include printing the run manifests (so that drivers have them at pull-out as back-up) and making sure that each driver has both a money bag and a gas card. If after the pre-trip inspection, a vehicle is downed for any particular reason, the driver is instructed to drive the vehicle over to maintenance. If maintenance comes up with a quick fix, there may not be a need to move any trips from that run. If the vehicle is downed for an extended period and a replacement vehicle is available, the switch is made. One special note about the printing of manifest that relates to emergency preparedness. Past emergencies, often associated with hurricanes, have often resulted in a downed wireless communication system, radio system, internet and/or telephone system. In addition, there have been non-weather-related instances when the wireless system is offline for varying periods of time. For these reason, the Operations Manager makes it point to always have printed manifests for the next seven days, so that drivers will always have at least a partial manifest while these systems are done.

At pull-in, the Operations Manager is responsible for ensuring that the drivers have completed their driver log and post-trip inspection and have turned in their money bag. A check is also made to see whether the total fare collected matches the driver log before the money bag is deposited in the office safe.

2.4.7 Handling Customers' Service-Day Calls

This function is handled by the same staff that does dispatching, and so this staff has a good grasp of what the ETAs will be in response to WMR and ETA calls.

2.4.8 Trip Reconciliation

The trip reconciliation function is performed by MITS' Operation Manager as drivers fail to perform arrivals on-time or if communication holes are present. This is largely done from the arrival times logged in on the driver's log.

2.4.9 Vehicle Operations/Service Delivery

The default MITS service level is curb-to-curb service, but drivers will sometimes help with customers getting to/from the vehicle upon request. By policy, this means though that a driver will never go inside the house/building with the customer.

Drivers use the tablets (with DriverMate installed) that are mounted in the MITS vehicles (or the paper manifest as a backup) as well as radio communication with dispatchers to adhere to the run schedule. For pick-ups, the scheduled pick-up time is displayed on the tablet along with the 30-minute pick-up window. The estimated pickup time is not displayed on the tablet. While this is consistent with what is communicated to the customer, it is harder on the driver to adhere to the schedule that the scheduler and dispatcher have put together. (We understand that displaying the scheduled ETA is a configurable capability of DriverMate, and if true, this would be an easy change.) For drop-offs, only the scheduled dropoff time is displayed on the tablet. As mentioned before, an appointment time, if appropriate, could easily be added to the trip notes, which can be seen by the driver, but this is not currently done.

MITS drivers will honk to alert the client when they have arrived at the pick-up location. If the MITS driver arrives before the scheduled pick-up window should begin, the driver will wait before indicating as such on the tablet and starting the clock on the client. During a ride-along TTI observed a vehicle arriving over 15 minutes before the scheduled pick-up window, though the client was a frequent MITS customer and did not feel rushed to get on the vehicle. However, this example could speak to larger issues with not using the actual estimated arrival and travel times in scheduling.

With DriverMate, drivers also have to manually enter the odometer readings at pull-out, pull-in, and each stop.

The driver tablets provide an alert each time dispatchers adjust the schedule and either add or cancel a trip on the driver's run. This can occur frequently while the driver is on the road during revenue service, though the interface on the tablet is simple and requires a simple touch-screen acknowledgement. Drivers get alerts for each and every change, meaning a succession of alerts could occur on the screen if the dispatchers is making several adjustments at once.

Drivers will also communicate with dispatchers via push-to-talk radios about issues that occur on the road. During the focus groups, some drivers said that they sometimes make suggestions to the dispatcher on the trip event order (ex. wanting to drop off a passenger first if they are already nearby their destination address). These drivers stated that sometimes the schedule is nonsensical in terms of addresses being spread out and driving back-and-forth across town, which moves them to make suggestions about picking-up or dropping-off customers. Some drivers also said that providing service further into Orleans Parish has provided additional service delivery challenges in adhering to the run schedule, dealing with local traffic, and finding pick-up points at new addresses.

Drivers find the navigation directions on the tablets to be mostly helpful, though sometimes the directions will not provide the fastest way to the address; instead, drivers may use their local knowledge of the streets to get to destination. In these instances, dispatchers monitoring vehicle positions may communicate with drivers if they see the vehicle position on a different street (such as a neighborhood cut through).

If tablets in the vehicles are not working, drivers will rely on paper manifests and dispatch will communicate changes in their run to the driver via radio. If a back-up COA is placed in service, the lack of a tablet in these vehicles puts the driver at a further disadvantage.

The propane fleet can cause some operational issues on the road for drivers, as vehicles can be stressed during warmer weather due the energy needed to run the vehicle systems (particularly the air conditioning). On hot days, a non-infrequency occurrence can be a vehicle stalling out at a stoplight or even within an intersection. Experienced drivers will know to wait with the vehicle for a few minutes and try starting it again to get the vehicle back up and running. Drivers said that this vehicle behavior hardly ever results in a road call, since the vehicle will return to normal after waiting; some drivers also try to run the air conditioner on a lower setting to put less strain on the vehicle. However, this does pose a potential safety issue if vehicle-stalling happens at a bad moment and causes the vehicle to become involved in a collision.

2.4.10 Driver Requirements and Training

All driver training for both fixed-route and MITS service is conducted and tracked by the Safety Manager, who uses Transdev materials for the training course (including binders and videos). New driver hires are required to pass a background check, physical, and drug test; for drivers of fixed-route or COA vehicles, applicants have to have a CDL before they can start training (JP Transit does not provide support for obtaining a CDL).

The Safety Manager conducts training for new hires, refresher training, and tracks certification status of drivers. Each driver has a Transit Operator Tracking Book associated with them so that the Safety Manager can track training history. Transdev will be transitioning to an “e-learning” platform at some point in the future; it is surmised by the Safety Manager that this platform will likely cover the same training material. The Safety Manager also integrates their videos from other sources (such as the state of Louisiana or other online sources) to cover additional helpful topics such as dangers of multitasking, traffic signs, texting and driving, railroad crossings, and accident examples.

The typical new hire training is a multi-step process across multiple weeks. Following an initial day of new hire paper, there is about one week of initial training in the training room at the East Bank facility, which includes video examples, stories of previous happenings relevant to the topic, and demonstration on board a parked bus to demonstrate proper processes. The training is designed to break up monotonous instruction in the classroom and not only focusing on the handbook. Following the completion of classroom instruction, drivers are taken to a closed course with cones to conduct maneuvers in the video (as discussed in the training book and similar to those in a bus rodeo). The drivers start with the cones at wider positions at first, then the cones are tightened down to execute the same maneuvers at a hard difficulty.

After the closed course instruction is passed by the driver, the next step is for drivers to drive up and down fixed routes or area streets (depending on the service the driver is being trained for). The Safety Manager does this with the new hires for at least 8 hours per driver over a weeklong period. Then new drivers do cadeting with another operator, who gives them directions on operating the vehicle and

where to go. The cadeting period lasts for 2 weeks before the new driver is released on their own to period service. The Safety Manager will do an on-board ride check at 15 days and 90 days later after the new drivers begin to operate the vehicles on their own. The purpose of this "ride-along" is to identify areas for improvement, which are conveyed to the driver. If needed, the Safety Manager will meet one-on-one with the driver as well.

Refresher training is conducted with drivers once a year; this includes a one-hour video, closed course driving, and driving on the street (lasting about a half a day for each driver). Refresher training for a driver will also be triggered if they are involved in an incident or accident. JP Transit also has an incentive bonus pool for each driver (around $600 annually) to encourage safe driving behavior; the driver's pool shrinking gradually as any incidents or issues occur. The status of driver's licenses is tracked by the Safety Manager using the WebRisk tool within the Transdev system; an alert for a driver comes up when they have 30 days remaining to renew their license. The Safety Manager gives the driver a checklist of all the things they will need to renew their license, including getting a new license with the STAR ID logo. The Safety Manager conducts a safety meeting with the drivers each month on various changing topics (such as emergency vehicle accidents or dealing with pedestrians).

2.4.11 Road Supervision

JP Transit has 6.5 road supervisors that are shared between the fixed route and paratransit service, meaning there are no supervisors dedicated to MITS service. The road supervisors respond to accidents or incidents on the road and assist the driver in dealing with passengers in these circumstances.

In the event of an incident on the road, drivers are instructed to radio (or if the radio is not functioning) call in the incident to the dispatcher immediately to let the dispatchers know if they need assistance of a road supervisor the scene. Drivers are directed to react appropriately to the scene and call the local police if needed. JP Transit does not have their own police department; the agency used to have access to the RTA police department at some point in previous years. The incident reports are filed within Transdev's system.

Road supervisors maintain a file for each driver, tracking such incidents and driver performance, Complaint forms about drivers and safe driving behavior are also included in these files.

2.4.12 Fleet Maintenance

MITS has 18 propane-fueled vehicles available for revenue service. With one exception, all MITS vehicles are model year 2018 or 2019 Ford E450s. The exception is a 2014 Ford E350. All of these vehicles have a useful life of 5 years or 150,000 miles.

The maintenance staff also maintain the COA vehicles that are sometimes used to fill in for MITS runs; (but not included in the MITS fleet inventory) and Dodge Caravan that is used by the Road Supervisors.

While maintenance staff monitors the mileage on the vehicles, they also noted there is not an effort to spread/even up mileage across the fleet. Vehicle odometer information, as entered by drivers into their Tablet, is re-entered into the Ron Turley system from Transdev on a daily basis. A list of the MITS vehicles, along with the odometer readings (at the time of our site visit) is shown in Figure 3.

Figure 3: MITS Fleet and Odometer Readings

Dedicated Paratransit Fleet-MITS											
Facility	Service Type	Vehicle	Year	Make	Model	Owner	Operator	Odometer	In Service Date	MAX PASSENGERS (GDF)	Status
00068	Para	630	2014	FORD	E350	Jefferson Parish	TRANSDEV	164,314.0	6/24/2014		Available
00068	Para	640	2018	FORD	E450	Jefferson Parish	TRANSDEV	116,661.0	12/19/2017	18	Available
00068	Para	641	2018	FORD	E450	Jefferson Parish	TRANSDEV	159,549.0	12/19/2017	18	Available
00068	Para	642	2018	FORD	E450	Jefferson Parish	TRANSDEV	86,534.0	12/19/2017	18	Available
00068	Para	643	2018	FORD	E450	Jefferson Parish	TRANSDEV	111,298.0	12/19/2017	18	Available
00068	Para	644	2018	FORD	E450	Jefferson Parish	TRANSDEV	112,125.0	12/19/2017	18	Available
00068	Para	645	2018	FORD	E450	Jefferson Parish	TRANSDEV	112,624.0	12/19/2017	18	Available
00068	Para	646	2018	FORD	E450	Jefferson Parish	TRANSDEV	84,422.0	12/19/2017	18	Available
00068	Para	647	2018	FORD	E450	Jefferson Parish	TRANSDEV	118,785.0	12/19/2017	18	Available
00068	Para	648	2018	FORD	E450	Jefferson Parish	TR ANSDEV	110,752.0	12/19/2017	18	Available
00068	Para	649	2018	FORD	E450	Jefferson Parish	TRANSDEV	103,472.0	12/19/2017	18	Available
00068	Para	650	2018	FORD	E450	Jefferson Parish	TRANSDEV	102,287.0	12/19/2017	18	Available
00068	Para	651	2018	FORD	E450	Jefferson Parish	TRANSDEV	79,223.0	12/19/2017	18	Available
00068	Para	652	2018	FORD	E450	Jefferson Parish	TRANSDEV	108,364.0	12/19/2017	18	Available
00068	Para	653	2019	FORD	E450	Jefferson Parish	TRANSDEV	61,793.0	5/1/2019	10	Available
00068	Para	654	2019	FORD	E450	Jefferson Parish	TRANSDEV	34,950.0	5/1/2019	10	Available
00068	Para	655	2019	FORD	E450	Jefferson Parish	TRANSDEV	61,837.0	5/1/2019	10	Available
00068	Para	656	2019	FORD	E450	Jefferson Parish	TRANSDEV	41,550.0	8/31/2020	10	Available

Source: JP Transit / Ron Turley Associates Fleet Maintenance System

As previously discussed, JP Transit has two facilities (the "East Bank" and "West Bank" locations). The East Bank facility is larger with 6 service bays, 3 service workers, and 6 mechanics. The West Bank facility has only 3 bays, 3 service workers, and 5 mechanics. All maintenance workers are supervised by the Maintenance Manager, who offices at the East Bank facility but goes back and forth between both locations. Nearly all maintenance on the MITS fleet is done at the East Bank facility; the West Bank facility is only used for MITS in rare circumstances (ex. when the vehicle is close by from a road call). Buses are washed and cleaned at the end of every day at either facility. JP Transit tries to do all preventative maintenance and repairs in house; some repairs such as vehicle alignments might be done by an outside vendor. JP Transit does not have a formal vehicle rehabilitation program.

Drivers conduct pre-trip and post-trip inspections using JP Transit's Service Lane checklist. If there is an issue with the vehicle from either an inspection or a road call, dispatch will notify the maintenance department to bring the vehicle out of service. Work orders are put into the Ron Turley system and tracked by the Maintenance Manager, who in-turn handles the parts ordering for any maintenance or repairs; the manager noted that obtaining parts in a timely manner for the MITS vehicles is usually not a challenge. The maintenance staff is also aware of which vehicles have issues more frequently.

The Ron Turley system is used to enter information about repairs and PMs, noting that PM adherence is consistently good. JP Transit uses a PM schedule for three sets of PMs to align with regular oil changes. Each month the Maintenance Manager and the Maintenance Clerk run a PM adherence report to look at what PMs have been done and the mileage of each vehicle. JP Transit sends this monthly information to a local contract monitoring firm called Solution (who also handles requests for reimbursements, expenses tracking, and triennial review information). The designated staff person at Solution fills out a spreadsheet of PM performance to track and monitor this information; Solution will alert JP Transit if they are missing any information on a vehicle. Transdev's policy is to have a 0% threshold on PM adherence, meaning all PMs are handled in between 500 miles before up to 0 miles at the PM target; JP Transit's personal standard is to handle PMs within 100 miles of the target. All PMs for MITS vehicles are handled at the East Bank location.

All propane fueling of the vehicles is done on-site at the East Bank facility, where JP Transit has a large propane tank installed. Maintenance staff do the fueling of the propane vehicles at the ending/beginning of the day or when drivers come in for break in the middle of a run; drivers are not

allowed to fuel the vehicles themselves. The manufacturer provided training to maintenance staff on using the propane tank before it was installed; they do not come out for refresher training on a regular basis but can be requested as needed. Management expressed that the propane vehicles are not a major issue but can sometimes bring on logistics issues for the agency during hurricane events (due to the inability to fuel the vehicles elsewhere).

MITS Maintenance Manager noted the difficulties JP Transit has with hiring good mechanics, particularly finding good external hires that have some experience with working on buses. At times the manager has attempted to move drivers over to maintenance and train them as mechanics, but this is a challenge as they usually do not have the prior experience. The Safety Manager conducts safety training with the mechanics in the maintenance department, using handbooks from Transdev and following OSHA requirements; this training typically lasts a little bit less than a week. The mechanics also get training on using the vehicle the same as drivers receive in case they may need to operate the vehicle. There is no regular refresher training for mechanics, though training will be done again when recertification is needed.

The maintenance of tablets is handled by IT staff. For tablet communications issues, it was discovered that swapping out SIM cards between tablets can be a quick fix solution to get them working again and back into MITS vehicles. However, because the IT person typically comes into the office after vehicle pull-out, by that time the operations supervisor has already made a decision to not use a MITS vehicle with a down tablet and substitute another vehicle (perhaps a COA vehicle) instead. Maintenance staff have expressed to IT that they are not able to handle switching out sim cards in the tablets. However, the IT person is able to train other staff on how to switch sim cards in down tablets to get them working again. A better communication and standard process is needed to address down tablets quicker before daily pull-out rather than relying on vehicles without working tablets for service.

2.4.13 Reporting

With the exception of the XIMA telephone MIS, Trapeze provides all of data and reports that are needed to monitor MITS and to satisfy external (Jefferson Parish, NTD) and internal (Transdev) reporting requirements.

For example, ridership, revenue vehicle hours (RVHs), and productivity (trips per RVH) are reported on the productivity report for any period specified, while on-time performance is reported on the OTP report. The NTD report is also valuable in supplies the statistics that are required by the FTAS.

The XIMA system produces a report on incoming call service levels for each group (reservations vs. dispatching). This report, for any specified day or period, presents the number of calls, the number and percentage and average wait time of abandoned calls, the number and percentage of calls answered, the average speed of answering (i.e., average hold time), calls answered within and beyond an average hold threshold, and longest wait time. Most importantly, the report also provides hour by hour statistics. These can hence be use in determining whether or not there are any capacity problems stemming for patterns of poor telephone access. This will be further assessed in the Task 5 Technical Memorandum.

2.4.14 Complaint Management

As noted in the MITS Rider Guide, riders with complaints are directed to call MITS Manager. Complainants are asked to provide as much detail about the circumstances, including the date, time and trip number of the request and/or trip. There are no specific instructions for submitting complaints in any other fashion, such as in writing by mail or email.

Complaints received are logged into Trapeze's complaint module and are typically investigated by the Operations Manager. The investigation process may include review of any and all relevant documents, videos or recordings, and interviews with staff involved. If further clarification or detail is required, the Operations Manager may call the complainant back.

After the reviewing the complaint and investigation materials, the Operation Manager will send a resolution letter to the complaint, indicating the results of his findings and aby actions taken by MITS that stems from the investigation. TTI was not provided with any information that states or alludes to a timeframe within which this letter must be issued.

Complaints and related materials associated with ADA-related complaints must be kept for 7 years and be kept in a separate file.

At the time of our site visit in mid-June 2022, there had been only two complaints logged since the beginning of the year. The very low rate of complaints, a very unusual circumstance in paratransit, is either an indicator that MITS is providing superior service, which is indicated in part by its reported (pick-up) OTP, or an intake process that telephone based and performed by MITS staff (versus a neutral body.) At the RTA, for example, the complaint process is managed by RTA staff who are not a part of the LIFT staff.

2.4.15 Compliance Monitoring – Capacity Constraints

Per FTA guidelines, an ADA paratransit service may be capacity constrained if it exhibits a *pattern* of **denials**, **late trips**, **missed trips**, and **excessively long trips.** If such patterns can be traced to capacity constraints, the service is in violation of ADA guidelines. There is also a fifth service quality/capacity metric, **telephone access**, which is typically measured in average and maximum hold times. If there is a pattern of access issues (by ADA paratransit customers), this too is considered by the FTA to be a capacity constraint. Each of these five metrics is discussed below.

Denials –It is clear that MITS staff is not tracking all denials as defined in FTA guidelines as follows:

(1) A trip request that cannot be accommodated at the requested time +/- 60 minutes (within reason) because of capacity constraints, or

(2) A trip request that can be accommodated but beyond the +/- 60-minute negotiation period, with the rider either choosing to accept or to refuse the offered pick-up time.

One cautionary note about the first part of the definition. The phrase "within reason" is part of the definition because there are circumstances when a pick-up time is available and offered within 60 minutes of the requested pick-up time but that time is incompatible with appointment times, work or class start or end times, building opening and closing times, etc. For example, the pick-up time for a return trip is offered at time when the rider has not yet concluded his/her workday.

The second part of the definition needs to be heeded. It is common in in the industry for such denials to not be tracked. When systems report zero denials, most FTA reviewers will dig deeper to see how denials are tracked, and if there is not a process in place, the agency will be found to be non-compliant.

Late Trips – One of the MITS's shortcomings (as previously discussed) is that it does not track the on-time performance of drop-offs for trips that were requested by a requested drop-off time or a stated appointment time. Also, a stated above, regardless of whether or not an OTP standard is reached, a pattern of late trips can still exist. Also, MITS does not currently have a process for identifying patterns of late pick-ups and late drop-offs.

Missed Trips – MITS dispatchers did not really have an understanding of what factors differentiate missed trips from no-shows. There are five definitions for a missed trip. A missed trip is an event where (1) the vehicle never arrives; (2) the vehicle arrives early and departs before the pick-up window begins; (3) the vehicle arrives on-time or late but departs before the 5-minute wait time is over; (4) a driver fails to carry out specific instructions included with the reservation (e.g., a specific building entrance, door-to-door assistance, honk on arrival, etc.), which results in the rider missing their ride; or (5) the vehicle arrives after the pick-up window and the customer does not appear or cancels-at-door. Such events are not the fault of the rider and hence should not be designated as a no-show. Missed trips are currently not being tracked in Trapeze by MITS staff. Moreover, even if the percentage of missed trips do not exceed a standard (commonly 0.5%, noting that JP Transit has not established a not-to-exceed goal), patterns may still exist, and it behooves the Transdev or JP Transit to establish a process for identifying a pattern of missed trips.

In Boston, for example, the MBTA also requires that its contractors separately track and report missed trips where the vehicle arrives (1) between 0 and 15 minutes after the end of the pickup window, (2) 16 and 30 minutes after the end of the pick-up window, and (3) more than 30 minutes after the scheduled pick-up time. Clearly, the MBTA is interested in the severity of missed trips as a performance issue. It may be something that MITS may wish to replicate.

Excessively Long Ride Times - The percentage of excessively long ADA paratransit trips is another service quality metric that can also point to capacity issues. Many ADA paratransit systems have set a maximum ride time standard in their scheduling system, but this is used solely as a scheduling parameter so that the scheduling system (in this case Trapeze) will not suggest a solution that violates this threshold. However, for ADA paratransit services the FTA defines an excessively long trip as a travel time that is longer than travel time for the same trip taken on fixed route transit service, adding in travel time to/from stops and reasonable wait and transfer times.

Even if a standard percentage is established (many systems use no more than 5%), a pattern of excessively long ADA paratransit trips may indicate a capacity constraint (e.g., if a limited supply of service forces schedulers and dispatchers to share rides to the point where a rider is on-board for an excessively long period).

Trapeze does preempt violations of excessively -long trips by not suggesting solutions that violate a configured max on-time threshold entered in Trapeze. Trapeze also will alert schedulers and dispatchers to such a violation when staff try to manually insert a trip into a run. But this is all based on that chosen threshold and has no comparison to what the comparable travel times if a rider were to use public transit for the trip. For the purpose of identifying possible capacity constraints, JP Transit needs to develop a process do this. This can be done by choosing a statistically relevant sample of paratransit trips and running these trips through a transit trip planner (that includes walk and transfer times), and then comparing the travel times.

Telephone Access - Telephone access is another service quality metric that can also point to a capacity constraint if there is an insufficient number of call-takers (or telephone lines) to handle the demand. MITS management does review the XIMA telephone MIS reports to determine if average and max hold times are reasonable. However, MITS needs to develop a process where hour by hour stats for each day of the week (for a given period) can be assessed. This is because patterns of poor telephone access – at certain hours – are day-specific. As with the above metrics, Transdev or JP Transit needs to develop periodic and on-going processes to assess pattens of possible capacity constraints, using the metrics above. And for MITS, this also will involve establishing standards for each metric, broadening the definition of the metric (especially with respect to on-time vs. late trips), and ensuring that processes are in place to track each of these metrics. It would also be instructive if incoming calls from customers can be categorized into four groupings by way of telephone groupings, noting that capacity issues focus on the first three as the more critical:

- Service requests subdivided further into advance reservations vs. same-day requests and will-calls.
- Cancellations
- Same-day customer issues (e.g., ETA requests and "where's my ride?" calls)
- General requests for information

Telephone access is usually defined in two ways: (1) the number or percentage of incoming calls that have a wait time of under "X" minutes or seconds in any day and hour, and (2) the number of calls that exceed a maximum (not to exceed) hold time, e.g., 5 minutes. In both cases, it is important the average hold time and max hold time for each hour of each date be reported.

It is also important to note here that a pattern in any of these areas can exist even if standards are met or exceeded. This could include, for example, frequent late trips or exceedingly long trips as experienced by riders from the same area, or substandard hold times on specific days and at specific times, such as Mondays when the phone lines up for reservations first open up. Moreover, even if it is unlikely that a pattern does exist because of exemplary service statistics in these five areas, a transit agency may face a finding of non-compliance if the agency does not have a process in place to detect such patterns. In short, MITS must not only track these measures (and establish standards) but also have a process in place to identify any patterns in each area, regardless of whether or not each standard has been achieved.

CHAPTER 3: SERVICE PERFORMANCE

Chapter 3 focuses on an evaluation of MITS's performance and is organized as shown below. Many of the analyses consider trends over the last full five calendar years, from 2017 to 2021. Note that impact of COVID pandemic on demand and service delivery also needs to be considered in the trend analyses. Hurricane Ida in September 2021 also impacted demand.

3.1 Eligibility Certification - A trend analysis of eligibility statistics.

3.2 Demand and Ridership - Trend analyses of ridership statistics including the numbers of – and where appropriate, percentages and breakdowns of -- trips requested, denials, trips booked, advance cancellations, trips scheduled, trips completed

3.3 Trip Characteristics – Our analysis includes GIS maps of origins and destinations by day and trip density patterns and special analysis of origins and destinations of inter-parish trips.

3.4 Telephone Hold and Call Times - A month-by-month trend analysis of telephone hold times from 2021.

3.5 Service Supply and Service Efficiency - Trend analyses of key service supply and service efficiency metrics including the number of revenue vehicle hours (RVHs), and service productivity.

3.6 Run Structure vs. Demand Profile - A comparison between the run structure and the demand profile to identify instances of over- and under-supply of service.

3.7 Operating Cost and Cost Efficiency - Trend analyses of operating cost and cost-efficiency.

3.8 Service Quality Metrics - Trend analyses of service quality metrics such as on-time performance and complaint frequency ratio.

3.9 Safety and Maintenance Effectiveness – This was limited to a trend analyses of safety metrics (preventive accident frequency ratio) because data on maintenance effectiveness (measured as miles between road calls) was not provided to the study team.

3.10 Possible Capacity Constraints – A discussion of patterns of denials, late trips, missed trips, excessively long trips, and substandard telephone access

3.11 Peer review – A comparison of MITS' key performance statistics with the same statistics from similarly sized ADA paratransit services; the statistics compared include ridership, service productivity, unit operating costs, on-time performance, missed trip percentage, complaint frequency ratio and accident frequency ratio

3.12 Focus Areas - A "deep dive" evaluation of the following five aspects of each service: (1) eligibility determination/certification functions; (2) call and control center functions; (3) software assessment; (4) complaint management function; and (5) contract assessment (for the JP Transit-Transdev contract.

3.13 Rider Focus Group Feedback

3.1. Eligibility Certification

The eligibility function for MITS is performed by the Eligibility Manager, who directly reports to the JP Transit General Manager. The primary function of the Eligibility Manager is to process applications for MITS. As with LIFT, this process is in two parts. Part 1 is the applicant Information, and Part 2 is the Heath Care Professional Verification. The first step is for the applicant to complete and mail in Part 1 to The MITS office. Upon receipt of Part 1, the Eligibility Manager mails the Part 2 Form to the health care professional identified by the applicant. Eligibility is determined by the Eligibility Manager based on these two forms; there are basically three outcomes: unconditional eligibility, conditional eligibility, and ineligible. The Transdev Eligibility Manager is also responsible for determining temporary or intermittent eligibility and applications from visitors.

Once eligibility has been determined, and if the applicant is determined to be eligible, The Eligibility Manager registers the new customer in Trapeze, and sends a MITS ID card and the MIOTS Rider's Guide to the new customer. Similar to LIFT, the MITS ID card has a3-yearr expiration date on it, meaning that the customer needs to re-certify before the expiration date.

If the applicant is determined to be ineligible, a letter is sent explaining the determination. MITS has an appeals process similar to that of the RTA.

Despite numerous requests for a breakdown of eligibility data from 2017 to 2021, Transdev management failed to provide TTI with any such data. TTI was not provided with the number of eligible customers, nor with any breakdown of eligibility determinations. While the Eligibility Manager was unavailable when TTI performed our staff interviews, TTI was told by management that presumptive eligibility has not been needed because the turn-around time for processing applications is always accomplished within 21 days.

Generally, it is much more common with ADA paratransit services to not vest the eligibility function with the operations contractor because there is an inherent conflict of interest. The more eligible applicants, the more trips, and the more trips, the more hours of service are needed. Transdev is paid based on a fixed monthly fee and variable cost fee that is based on the *annual* number of revenue vehicle hours (RVHs) of service and a sliding scale of hourly rates that varies based on the calculated annual RVHs.

TTI suggests that a more objective way to handle this function is to perform eligibility determination. This could be performed by Jefferson Parish staff or by Jefferson Parish retaining a third-party eligibility specialist or firm.

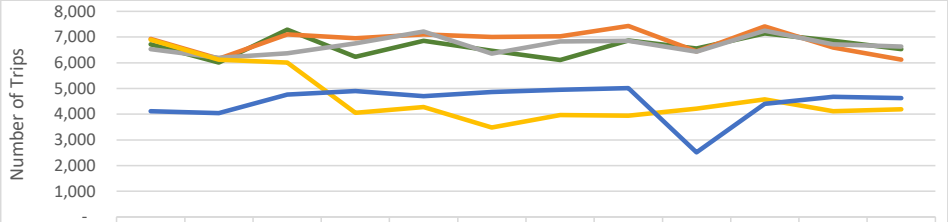
3.2 Demand and Ridership

3.2.1 Number of Trips Requested

Figure 4 shows the number of monthly trip requests for MITS service from 2017 to 2021. Figure 57 shows that the demand patterns were comparatively consistent from 2017-2019 and that month-to-month patterns emerge, with lower demand in February and higher demand in November, for example. In 2020, demand decreased dramatically from April 2020 onward, undoubtedly due to the COVID-19 pandemic, reaching its lowest point in June 2020. Since then, trip requests have increased slightly and started to recover in 2021 compared to the previous year. Nevertheless, the consequences of COVID-19 on MITS service have lasted, exemplified by the peak of ridership in August 2021 has only covered 67% of its pre-pandemic peak in August 2018. And while September 20201 shows a dramatic drop in ridership, we

believe due to Hurricane Ida, ridership in November and December of 2021 surpassed the 2020 ridership in those two months.

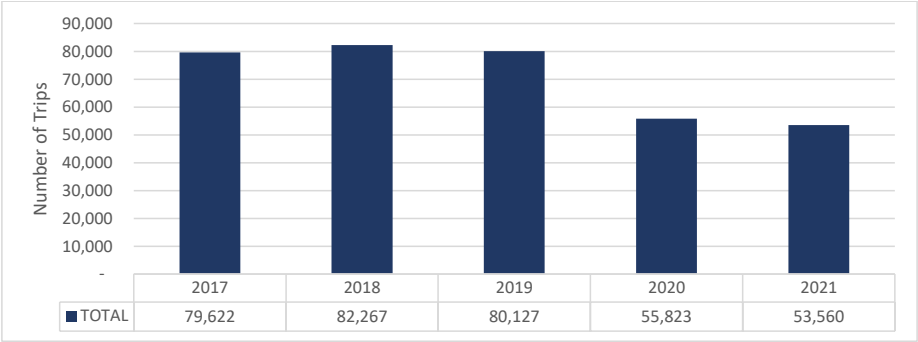
Figure 4. Total requested trips by month (2017-2021)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	6,716	6,008	7289	6229	6854	6,473	6,107	6,863	6,557	7,137	6,858	6,531
2018	6,924	6,151	7101	6949	7101	6,998	7,033	7,431	6,447	7,413	6,598	6,121
2019	6,536	6,192	6,364	6,750	7,214	6,357	6,825	6,851	6,436	7,248	6,718	6,636
2020	6,896	6,116	6,009	4,052	4,274	3,481	3,967	3,940	4,217	4,570	4,115	4,186
2021	4,118	4,045	4,759	4,900	4,702	4,865	4,945	5,014	2,515	4,406	4,671	4,620

Error! Reference source not found. shows that the total ridership for MITS in 2021 has reduced by about 3 5% compared to the total ridership in 2018. In addition, MITS lost 4% of its total ridership in 2021 compared to 2020; this was possibly due to a drop in ridership in September 2021 stemming from Hurricane Ida.

Figure 5. Total requested trips (2017-2021)



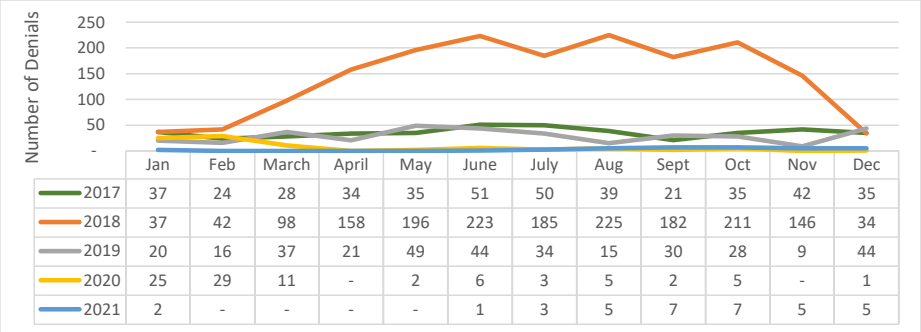
	2017	2018	2019	2020	2021
TOTAL	79,622	82,267	80,127	55,823	53,560

3.2.2 Number of Denials

Error! Reference source not found. and Figure 7 show monthly and annual trip denials for MITS. D enials substantially increased in 2018 compared to 2017, decreased in 2019, and then almost disappeared in 2020 and 2021. This points to MITS having a capacity constraint throughout much of in 2019, but able to keep up with demand during the pandemic. In part, this is confirmed by interviews

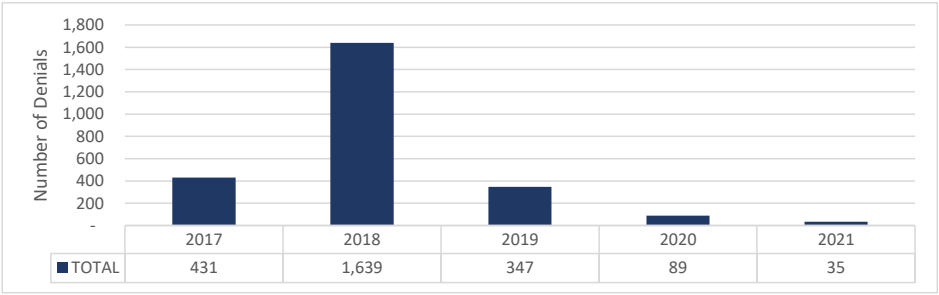
with the JP Transit General Manager who stated that the amount of service provided did not decreased substantially during the pandemic when the number of requests did drop by 30%. However, there may also be another explanation for the sudden drop of denials to almost none. As discussed in Section 3.13, riders participating in the MITS focus groups all concurred that MITS reservation agents are telling riders that they must call seven days in advance of their trip date, in the morning when the reservations phone lines open up, to have any hope of getting a trip booked when they want it. If this is truly pervasive, the reason for the sudden drop is that riders are not calling at times when it is likely that a denial will result, such as on the date before the trip date. In addition, per FTA guidelines, a completed trip with a negotiated (and accepted) time beyond the 60 minute trip negotiation window is still a denial; based on staff interviews, these are not being flagged as such. Indeed, from January 6 through June 16, 2022, the study team identified **1,002 trips or 3.8% of the total completed trips that should have been tagged as denials and were not.**

Figure 6. Number of trip denials by month (2017-2021)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	37	24	28	34	35	51	50	39	21	35	42	35
2018	37	42	98	158	196	223	185	225	182	211	146	34
2019	20	16	37	21	49	44	34	15	30	28	9	44
2020	25	29	11	-	2	6	3	5	2	5	-	1
2021	2	-	-	-	-	1	3	5	7	7	5	5

Figure 7. Total number of annual trip denials (2017-2021)

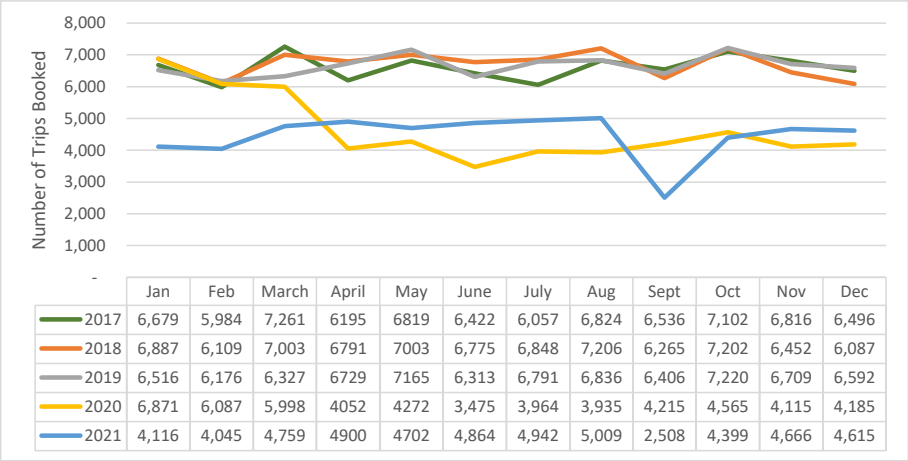


	2017	2018	2019	2020	2021
TOTAL	431	1,639	347	89	35

3.2.3 Number of Trips Booked

The number of trips requested less the number of trips denied is the number of trips booked. **Error! R eference source not found.** show the trends in number of trips booked for MITS service for each month from 2017-2021. These trends appear to be in line with numbers for requested trips of service. The number of trips booked was consistent from month-to-month in 2017-2019, then dropped in 2020 onward as a result of the COVID-19 pandemic. In 2021, the booking trends slowly began to increase, but rates are still far from the pre-pandemic levels. Also, there was a dramatic decrease in trips booked in September 2021, again due to Hurricane Ida.

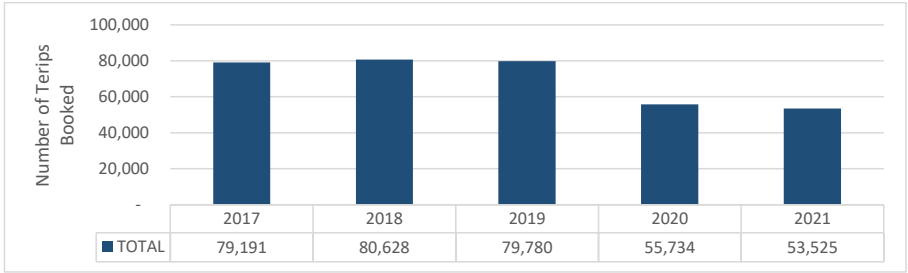
Figure 8. Number of trips booked by month (2017-2021)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	6,679	5,984	7,261	6195	6819	6,422	6,057	6,824	6,536	7,102	6,816	6,496
2018	6,887	6,109	7,003	6791	7003	6,775	6,848	7,206	6,265	7,202	6,452	6,087
2019	6,516	6,176	6,327	6729	7165	6,313	6,791	6,836	6,406	7,220	6,709	6,592
2020	6,871	6,087	5,998	4052	4272	3,475	3,964	3,935	4,215	4,565	4,115	4,185
2021	4,116	4,045	4,759	4900	4702	4,864	4,942	5,009	2,508	4,399	4,666	4,615

Annual totals for trips booked in the last five years are presented in **Error! Reference source not found.**. R emarkably, the annual totals for 2017-2019 are near identical, as are the figures from 2020 and 2021.

Figure 9. Total trips booked (2017-2021)



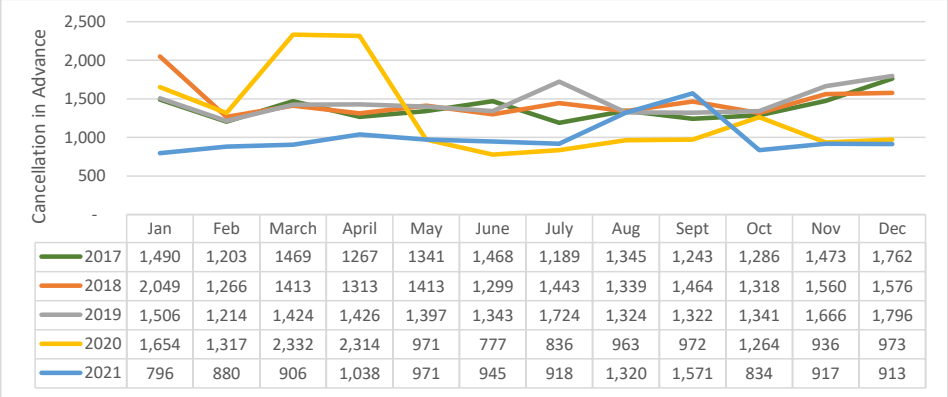
	2017	2018	2019	2020	2021
TOTAL	79,191	80,628	79,780	55,734	53,525

3.2.4 Advance Cancellations

Advance cancellations are defined as those called in at least two hours in advance of the scheduled pickup time by riders. FTA ADA compliance reviews suggest that cancellations made on days leading up to the trip date and on the day of service up to several hours in advance of the scheduled pickup time still allow the system's schedulers and dispatchers to utilize the open vehicle time created by cancellations.

Error! Reference source not found. demonstrates that the month-to-month patterns of cancellations in 2017-2019 were relatively consistent (with a spike in July 2019) and that the pandemic conditions led to a major increase in advance cancellations in March and April 2020. Thereafter in 2020, advance cancellations were lower than in the preceding three years. The low-level of advance cancellations continued in 2021, except for August and September as a result of Hurricane Ida.

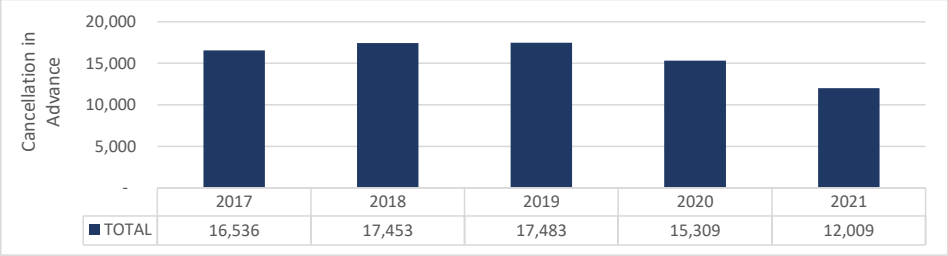
Figure 10. Number of advance cancellations by month (2017-2021)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	1,490	1,203	1469	1267	1341	1,468	1,189	1,345	1,243	1,286	1,473	1,762
2018	2,049	1,266	1413	1313	1413	1,299	1,443	1,339	1,464	1,318	1,560	1,576
2019	1,506	1,214	1,424	1,426	1,397	1,343	1,724	1,324	1,322	1,341	1,666	1,796
2020	1,654	1,317	2,332	2,314	971	777	836	963	972	1,264	936	973
2021	796	880	906	1,038	971	945	918	1,320	1,571	834	917	913

Figure 11 shows that the number of advance cancellations steadily increased over the five-year period, culminating in the number of advance cancellations in 2021 being nearly 50% higher than in 2017.

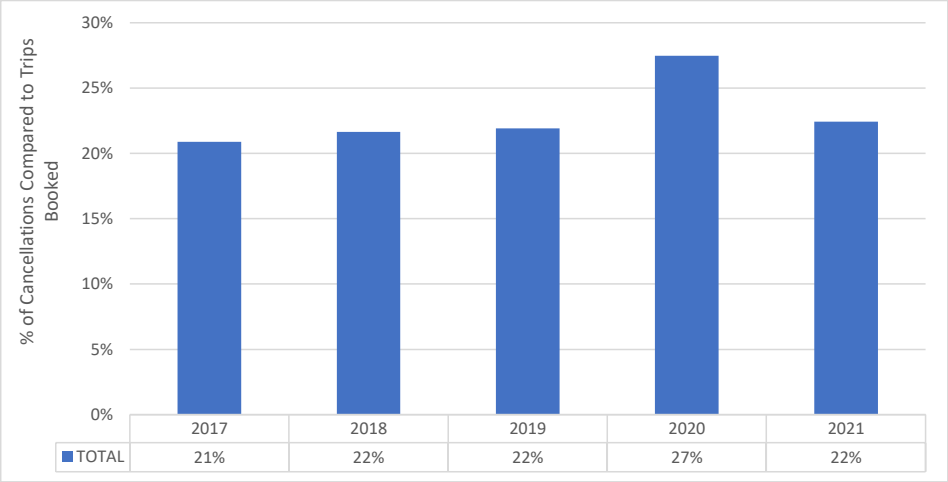
Figure 11. Total advance cancellations (2017-2021)



	2017	2018	2019	2020	2021
TOTAL	16,536	17,453	17,483	15,309	12,009

Error! Reference source not found. shows the cancellations as a percentage of booking trips. As alluded t o above, the percentage of cancellations is consistent, ranging between 21% and 23% for 2017-2019, and 2021. However, in 2020, and likely as a result of the pandemic, the percent of annual cancellations per booked trip increases to 27%.

Figure 12. Percent of advance cancellations compared to trips booked (2017-2021)

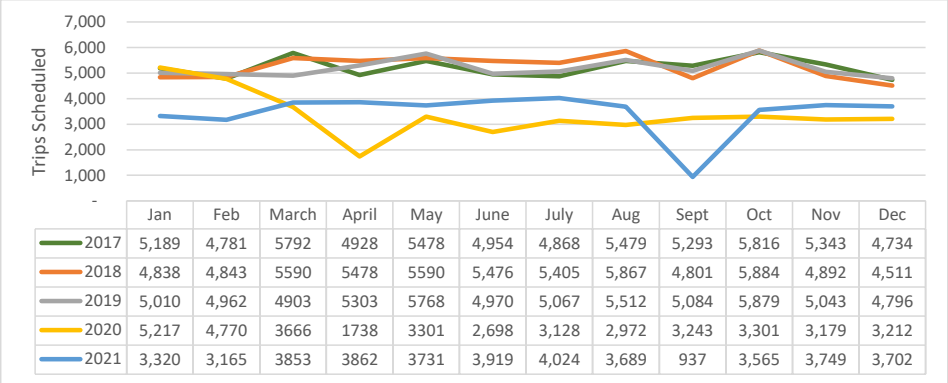


Transit agencies typically monitor the percentage of cancellations (as compared to the number of trips booked) and will attempt to consider and solve the predominant cause cancellations when the percentage exceeds 15%. Common in capacity-constrained systems (and we believe this to be the case for MITS) are cancellation percentages over 15%. Often, this is because customers, in response to consistently being unable to get the desired pick-up time, will request "place-holder" trips well in advance and then cancel them if they do not need them, resulting in a higher cancellation rate. As shown in Figure 12, this percentage of advance cancellation has consistently been above this threshold for the last 5 years

3.2.5 Trips Scheduled

The trips scheduled have been calculated here by subtracting the number of advanced cancellations from the number of trips booked. The month-to-month changes in trips scheduled are shown in **Error! R eference source not found.**. Similar to the requested trips, the monthly scheduled trips have followed almost the same pattern from 2017 to 2019. In 2020, the trips scheduled faced a remarkable reduction due to the changes in the trips requested, then it began to recover from the lower "pandemic" demand in 2021, except for the dip in September resulting from Hurricane Ida.

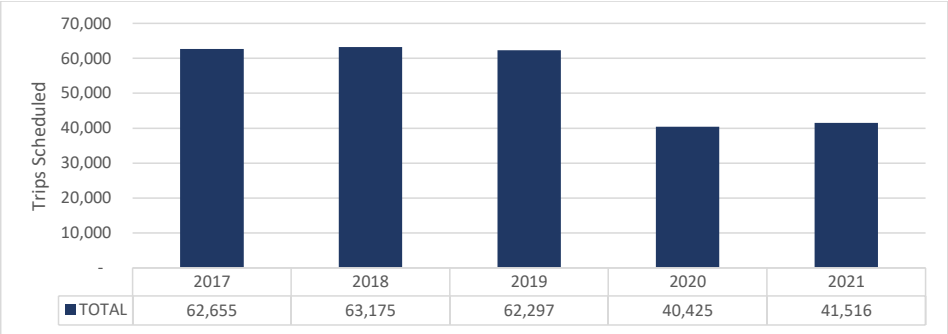
Figure 13. Number trips scheduled by month (2017-2021)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	5,189	4,781	5792	4928	5478	4,954	4,868	5,479	5,293	5,816	5,343	4,734
2018	4,838	4,843	5590	5478	5590	5,476	5,405	5,867	4,801	5,884	4,892	4,511
2019	5,010	4,962	4903	5303	5768	4,970	5,067	5,512	5,084	5,879	5,043	4,796
2020	5,217	4,770	3666	1738	3301	2,698	3,128	2,972	3,243	3,301	3,179	3,212
2021	3,320	3,165	3853	3862	3731	3,919	4,024	3,689	937	3,565	3,749	3,702

Error! Reference source not found. shows the total number of scheduled trips for each of the last five c alendar years. The year-to-year pattern is consistent with the pattern of trips booked (Figure 12). Note that the number of trips scheduled in 2021 is about 66% of the 3-year average from 2017-2019 (62,676 trips scheduled).

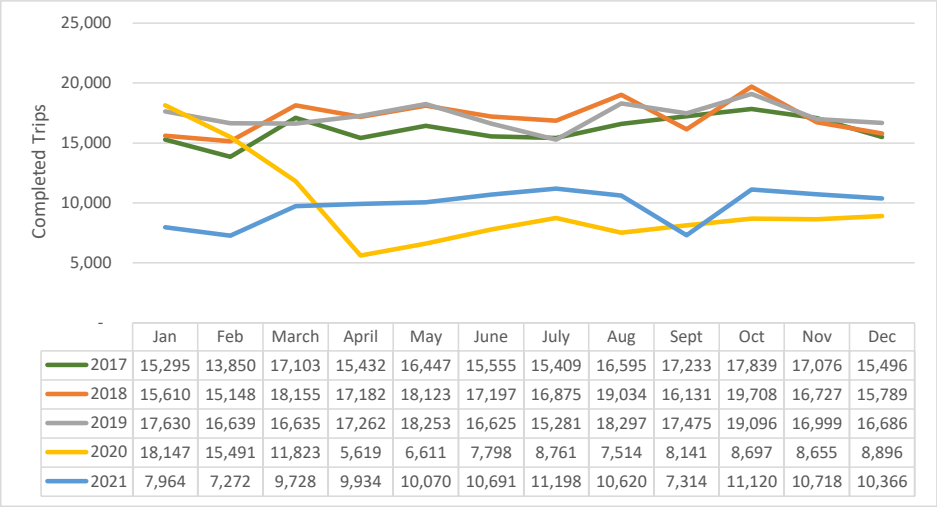
Figure 24. Total trips scheduled for (2017-2021)


70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
Trips Scheduled
2017
2018
2019
2020
2021
TOTAL
62,655
63,175
62,297
40,425
41,516

3.2.6 Passenger Trips Completed

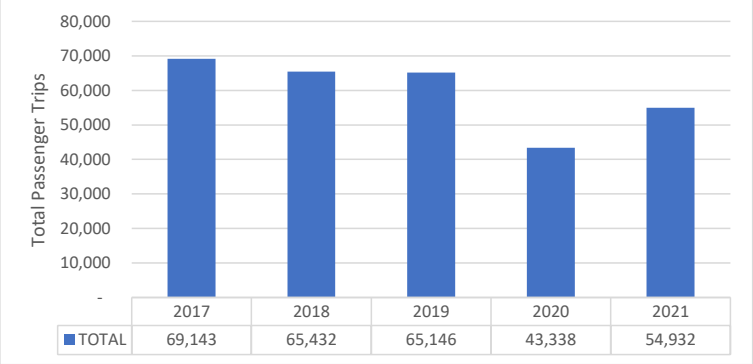
The month-by-month and annual numbers of completed passnger trips (which includes PCAs and companions) for the last five years are presented in Figure 4 and Figure 16, respectively. The month-to month curves follow pattens similar to the curves for trips scheduled (see Figure 14). The annual total in 2021 is interesting though because it shows a higher number for trips completed than in 2020, while the number of trips scheduled in these two years were comparatively level. This observation is presented more clearly in **Error! Reference source not found.**, which shows the number of trips completed as c ompared to trips scheduled.

Figure 35. Number of passenger trips by month (2017-2021)



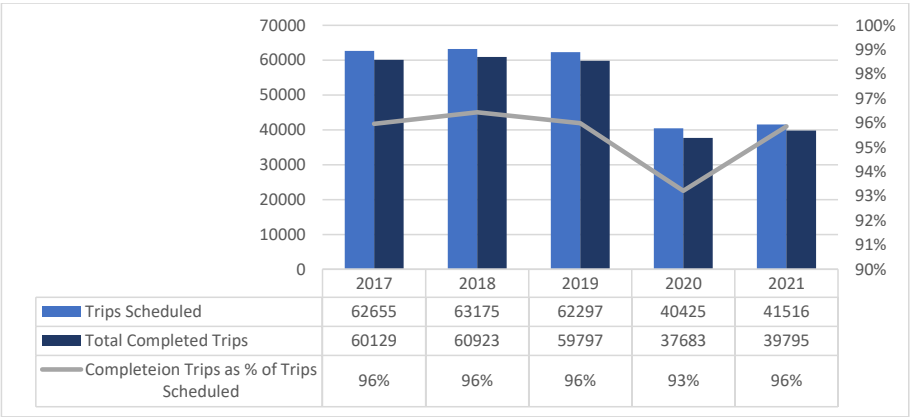
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	15,295	13,850	17,103	15,432	16,447	15,555	15,409	16,595	17,233	17,839	17,076	15,496
2018	15,610	15,148	18,155	17,182	18,123	17,197	16,875	19,034	16,131	19,708	16,727	15,789
2019	17,630	16,639	16,635	17,262	18,253	16,625	15,281	18,297	17,475	19,096	16,999	16,686
2020	18,147	15,491	11,823	5,619	6,611	7,798	8,761	7,514	8,141	8,697	8,655	8,896
2021	7,964	7,272	9,728	9,934	10,070	10,691	11,198	10,620	7,314	11,120	10,718	10,366

Figure 16. Annual number of passenger trips (2017-2021)



For each of the last five calendar years, **Error! Reference source not found.** shows the number of trips s cheduled vs. the number of trips completed. As shown for four of the five years, this percentage was consistently at 96%, dipping to 93% in 2020, indicating the pandemic resulted a higher percentage of incomplete trips by way of no-shows, late cancels, and missed trips than in the other four years.

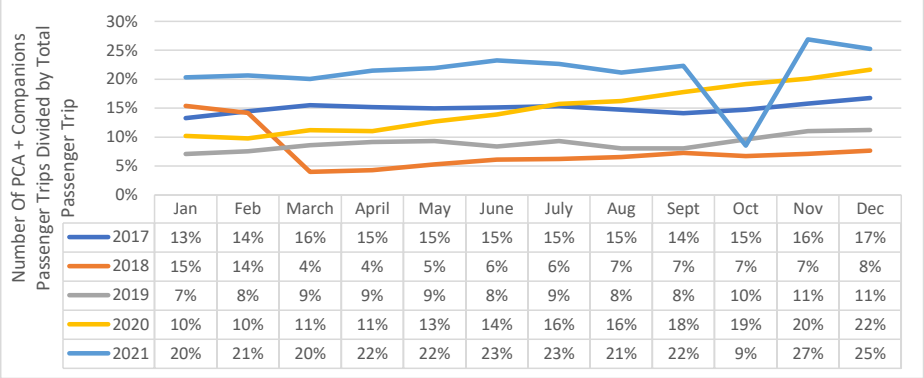
Figure 47. Annual percentage of trips scheduled (2017-2021)



3.2.7 PCAs and Companions

Figure 5compares, for the last five calendar years, month-by-month percentage of total passenger trips that were made by personal care assistants (PCAs) and companions. Typically, transit agencies find that this percentage rarely exceeds 13%, and this was the case for much of 2018 and 2019 and the first half 2020. Since then the percentage as risen steadily, peaking at 27% in November 2021, with the exception of October 2021 when the percentage dipped to 9%, the reason unknown.

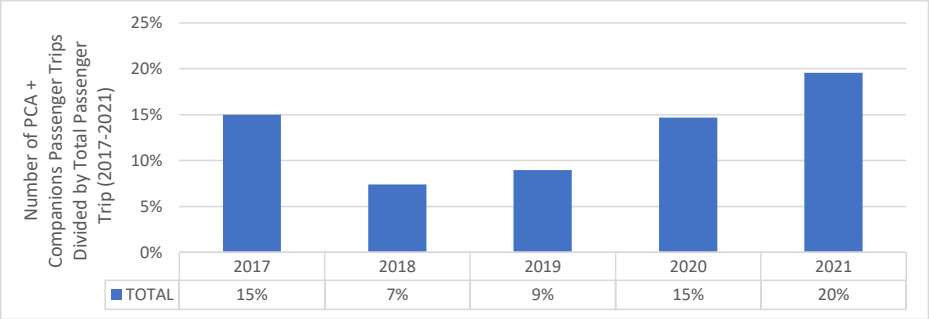
Figure 18. Annual percentage of PCAs and companions by month (2017-2021)



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	13%	14%	16%	15%	15%	15%	15%	15%	14%	15%	16%	17%
2018	15%	14%	4%	4%	5%	6%	6%	7%	7%	7%	7%	8%
2019	7%	8%	9%	9%	9%	8%	9%	8%	8%	10%	11%	11%
2020	10%	10%	11%	11%	13%	14%	16%	16%	18%	19%	20%	22%
2021	20%	21%	20%	22%	22%	23%	23%	21%	22%	9%	27%	25%

Error! Reference source not found. presents the annual percentages of PCAs plus companions. As shown, t here has been a steady increase 7% in 2018 to 20% in 2021. One possible explanation is that the eligibility determinations for persons requiring PCS has become more lenient.

Figure 5. Annual percent of PCAs and companions (2017-2021)



	2017	2018	2019	2020	2021
TOTAL	15%	7%	9%	15%	20%

3.3 Trip Characteristics

TTI researchers examined Trapeze data provided for MITS service from January 6, 2022 to June 16, 2022 (essentially 5 months of service in 2022) for any patterns in demand characteristics of the service. This subsection focuses on information synthesized from the Trapeze data.

3.3.1 Temporal Trip Patterns

Ridership by Day of Week

MITS ridership by day of week for the first six months of 2022 is presented in Table 1. The average weekday ridership on MITS was 4,752 trips, with the low ridership of 4,607 trips on Thursdays and a high

ridership of 5,063 trips on Wednesdays. Sunday ridership at 992 trips is 21% of average weekday ridership, while Saturday ridership is 32% of the average weekday ridership.

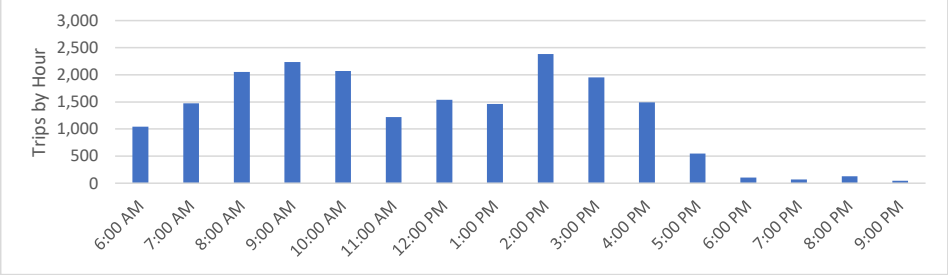
Table 1. Ridership by day of week (January 6 – June 16, 2022)

Day of the Week	Total MITS Trips (Jan.-Jun. 2022)
Sunday	992
Monday	4,924
Tuesday	4,181
Wednesday	5,063
Thursday	4,607
Friday	4,985
Saturday	1,537
Grand Total	**26,289**

Trips by Hour (Demand Profile)

Error! Reference source not found. presents trips by hours for MITS for the same six-month period. The m orning hours from 8:00 through 10:00 exceed the 2,000 trip level, peaking at 9:00 with an average of 2,234 trip. The afternoon peak is at 2:00, at an average of 2,381 trips. And there is steady ridership in the mid-day, ranging from 1,221 trips at 11:00, 1,539 trips at 12:00 noon, 1,462 at 1:00pm, noting also that ridership drops off at the 5:00pm. This is a very classic demand profile, typical of ADA paratransit services.

Figure 6. Annual percent of PCAs and companions (2017-2021)



3.3.2 Spatial Trip Patterns and Densities

TTI examined the most common drop off address for MITS during the six-month period in 2022, mapping information as available from the Trapeze data in ArcGIS software. Table 2 shows the results for addresses with the highest number of drop-offs s during the first six months of 2022. These reflected any addresses with over 150 drop-offs. Many of the destinations appear to be health and medical establishments, including clinics and dialysis centers.

Error! Reference source not found. and **Error! Reference source not found.** show clusters of origins and de stinations, respectively, for MITS trips by mapped location during January 6 – June 13, 2022; higher

densities of points are depicted in light blue. Locations for pickup and dropoff points appear to be fairly balanced, meaning that MITS service is typically providing the going and the return trip for customers to the same places. Overall, the Metairie and Marrero regions have the highest amount of usage on JP transit services when compared to the others as shown by the increased density of the heatmaps.

Table 2. Top drop-off addresses for MITS trips (January 6 – June 16,2022)

Address and/or Description of MITS Trip Destination	Number of Drop-offs
WEST JEFF PHYSICIANS CTR: 1111 MEDICAL CENTER BLVD	372
OCHSNER HOSPITAL: 1514 JEFFERSON HWY	347
DAVITA HARVEY DIALYSIS CTR: 1908 JUTLAND DR	341
ELMWOOD FITNESS CTR: 1200 S CLEARVIEW PKWY	325
7325 WESTBANK EXPWY	296
DAVITA AIRLINE DR DIALYSIS: 7100 AIRLINE HWY	280
FMC/FRESENIUS MEDICAL CTR: 141 S JAMIE BLVD	275
KENNER REGIONAL MEDICAL CENTER: 200 W ESPLANADE AVE	268
ARC/SALA: 333 SALA AVE	260
5301 WESTBANK EXPWY	246
ARC/LABARRE: 925 S LABARRE RD	243
333 SALA AVE	220
HARVEY STATE BLDG: 2150 WESTBANK EXPWY	210
4520 WILLIAMS BLVD	209
EAST JEFF GEN HOSPITAL: 4200 HOUMA BLVD	208
BARATARIA DIALYSIS: 1849 BARATARIA BLVD	193
DELGADO COMMUNITY COLLEGE: 501 CITY PARK AVE	185
2301 IDAHO AVE	184
4929 YORK ST	181
KENNER REGIONAL DIALYSIS CTR: 200 W ESPLANADE AVE	172
WALMART/ HARAHAN: 5110 JEFFERSON HWY	170
DORIGNACS: 710 VETERANS MEMORIAL BLVD	169
3100 SEVERN AVE	159
OCHSNER DIALYSIS: 630 DECKBAR AVE	158
4528 KENT AVE	155
All others	20,463
Grand Total	**26,289**

Figure 7. Origins for MITS service (January 6 – June 16, 2022)

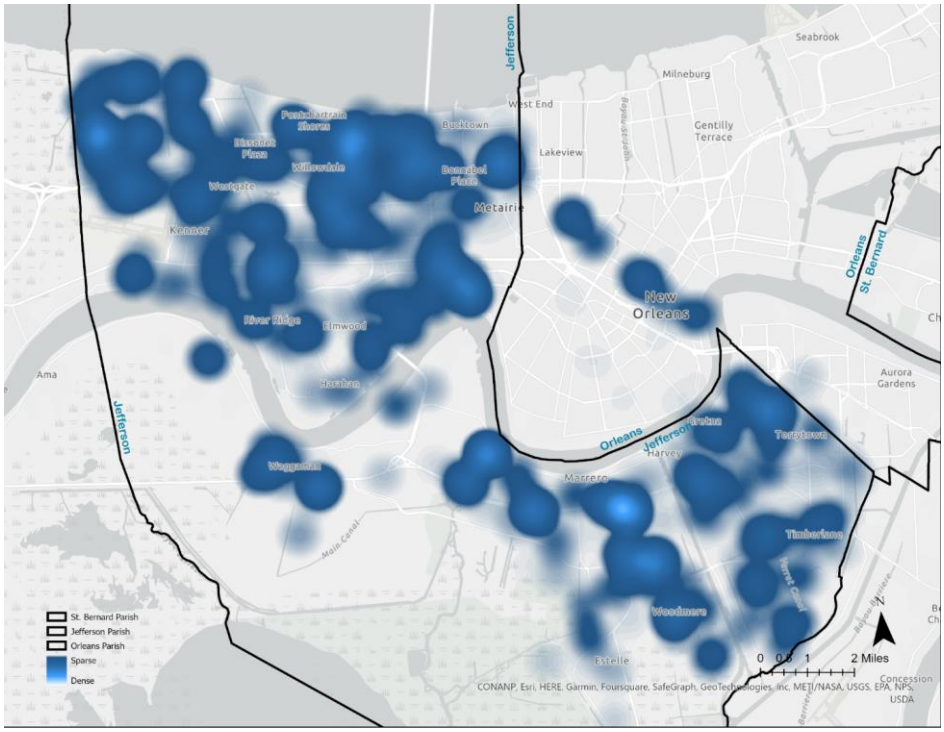
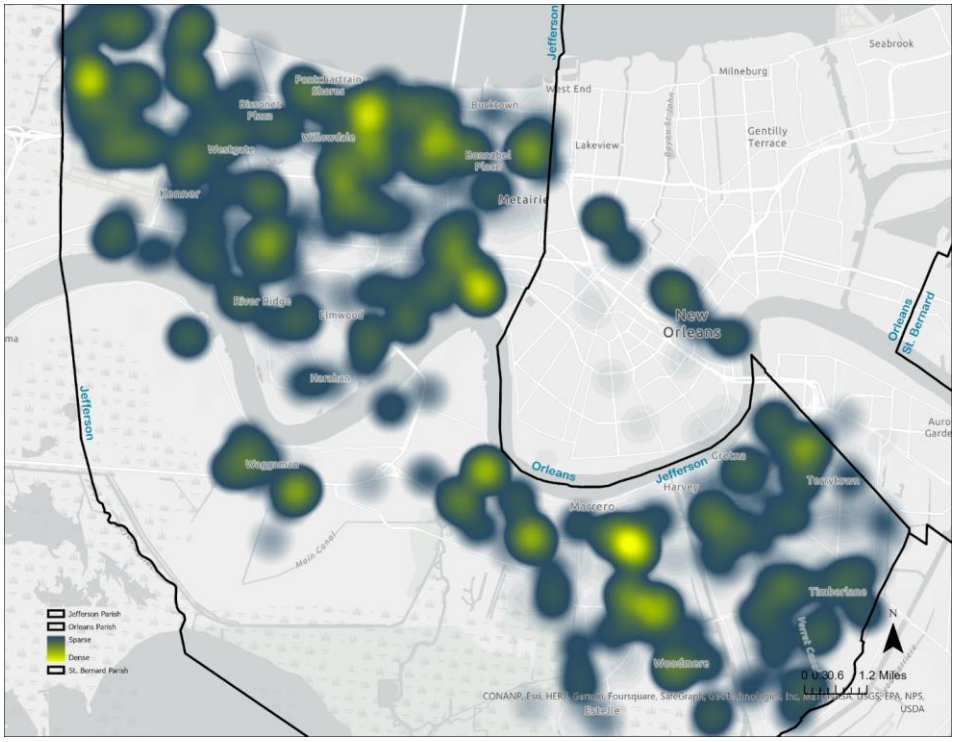


Figure 22. Destinations for MITS service (January 6 – June 16, 2022)



3.3.3 Average Trip Length and Duration

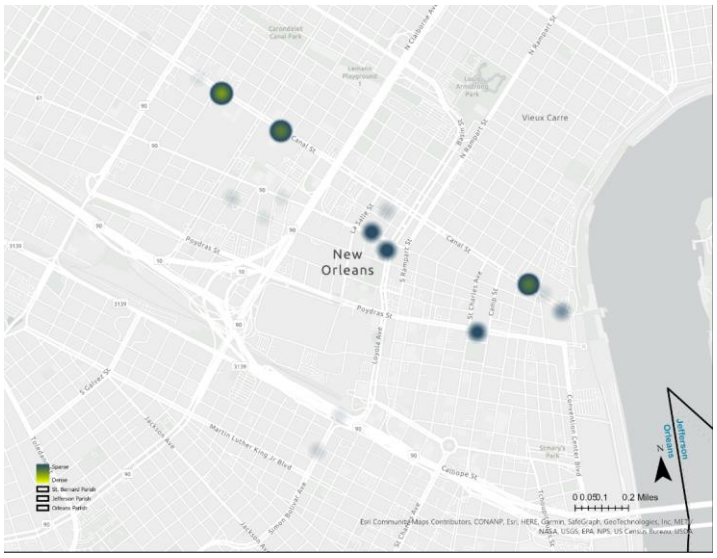
From an analysis of data spanning January 6 through June 16, 2022, the trip average length of MITS trips is 4.9 miles on weekdays, 4.3 miles on Saturdays, and 3.7 miles on Sundays, with an on overall trip length average of 4.8 miles. This data also showed that the average trip (on-board) times are 21.5 minutes on weekdays, 18.9 minutes on Saturdays, and 15.5 minutes on Sundays.

3.3.4 Interparish Service

TTI researchers examined the Trapeze dataset for MITS trips which had the origin or destination point in Orleans parish during January 6 through June 16, 2022. Overall, 886 pickups and 826 drop-offs (out of 26,289 total trips) were associated with interparish trips, or less than 1% of the trips. **Error! Reference s ource not found.** and **Error! Reference source not found.** show the mapped destinations (for going trips) and origin points (for return trips), respectively, in Orleans Parish; consistently, most MITS trips to and from Orleans are taken to/from the central part of New Orleans centered around the Canal St. corridor.

Figure 23. Trip MITS Destinations in Orleans Parish (January 6 – June 16, 2022)

Figure 24. Trip MITS Origins in Orleans Parish (January 6 – June 16, 2022)

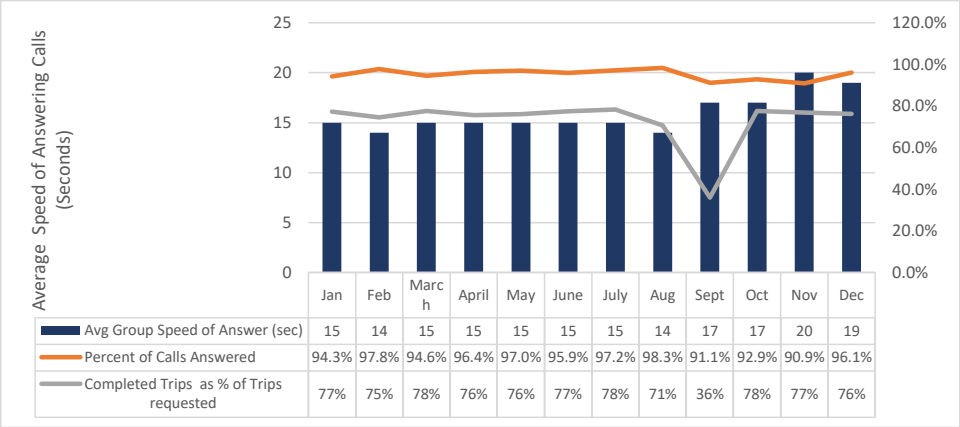


3.4 Telephone Hold and Call Times

Error! Reference source not found. depicts the average speed of answering calls (hold time) for MITS b ookings by month for 2021. The average time of answering calls ranged from 14-15 seconds in early 2021 to 20 seconds during November and December. This is very good. Maximum hold times were unavailable.

Figure 25 also shows the perecentage of calls answered by answered calls by month for 2021. Mostly, this percentage ranged betwee 92.9% and 97.8%, noting a decline to 91.1% in September, probably due to Hurricane Ida and 90.9% in November, stemming from the increase in trips requested that month.

Figure 25. Average speed of answering MITS booking calls in 2021



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Avg Group Speed of Answer (sec)	15	14	15	15	15	15	15	14	17	17	20	19
Percent of Calls Answered	94.3%	97.8%	94.6%	96.4%	97.0%	95.9%	97.2%	98.3%	91.1%	92.9%	90.9%	96.1%
Completed Trips as % of Trips requested	77%	75%	78%	76%	76%	77%	78%	71%	36%	78%	77%	76%

3.5 Service Supply and Service Efficiency (Productivity)

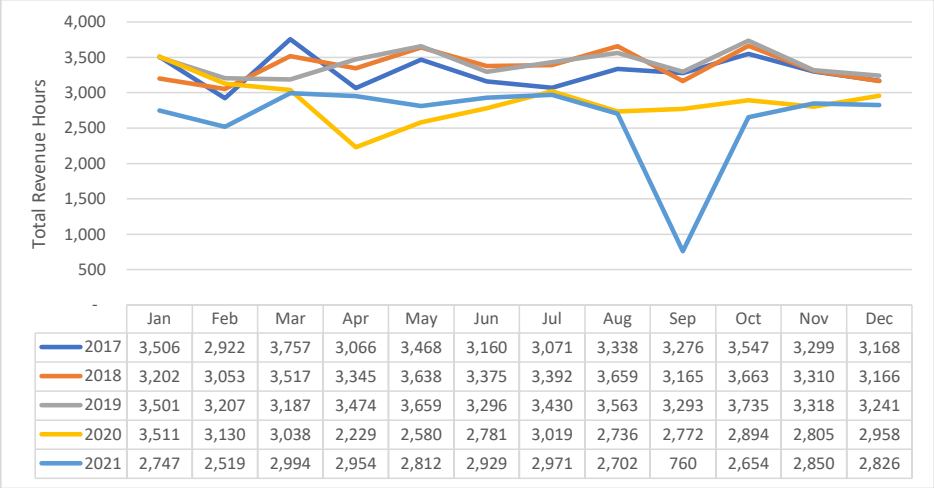
TTI also looked at monthly and annual data from 2017 through 2021 for any trends in MITS service supply and service/cost productivity.

3.5.1 Revenue Vehicle Hours

Error! Reference source not found. shows the month-to-month number of revenue vehicle hours (RVH) f or MITS service over the past five years. **Error! Reference source not found.** shows the annual number of RVHs. The figures show that service levels in 2017 through 2019 were fairly consistent. Unsurprisingly, the level of service decreased in 2020; however, while ridership decreased by 30% from 2019 to 2020, the level of service decreased by only 16%. In interviews with Transdev's General Manager, the primary reason given for this for this was driver retention, which makes sense. While driver recruitment and retention has been an industry wide problem, and worsened during the pandemic, Transdev's GM has stated that they have not had this problem at MITS. At the same time, payment to Transdev is largely based on the number of RVHs. Thus, there is a built-in incentive for Transdev to maximize the number of RVHs.

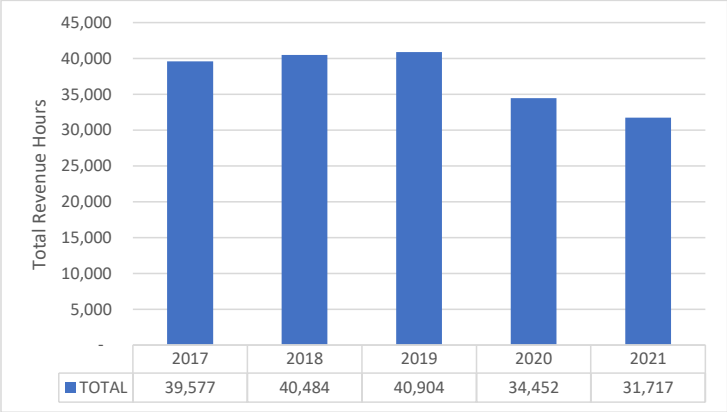
Note also the drop in the number of RVHs in September 2021, which likely was due to Hurricane Ida. Had this hurricane not occurred, there would likely have been approximately 2,000 RVHs (judging from the 2020 totals for October) added to the 2021 totals. But even with this addition, the 2021 totals for RVHs would still be lower than the 2020 totals, an interesting observation given that MITS ridership in 2021 was 22% higher than in 2020. This would indicate that Transdev was able to achieve a higher productivity in 2021 than in 2020, as is confirmed in Figure 28.

Figure 26. Revenue vehicle hours by month for MITS (2017-2022)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	3,506	2,922	3,757	3,066	3,468	3,160	3,071	3,338	3,276	3,547	3,299	3,168
2018	3,202	3,053	3,517	3,345	3,638	3,375	3,392	3,659	3,165	3,663	3,310	3,166
2019	3,501	3,207	3,187	3,474	3,659	3,296	3,430	3,563	3,293	3,735	3,318	3,241
2020	3,511	3,130	3,038	2,229	2,580	2,781	3,019	2,736	2,772	2,894	2,805	2,958
2021	2,747	2,519	2,994	2,954	2,812	2,929	2,971	2,702	760	2,654	2,850	2,826

Figure 27. Annual revenue vehicle hours for MITS (2017-2021)



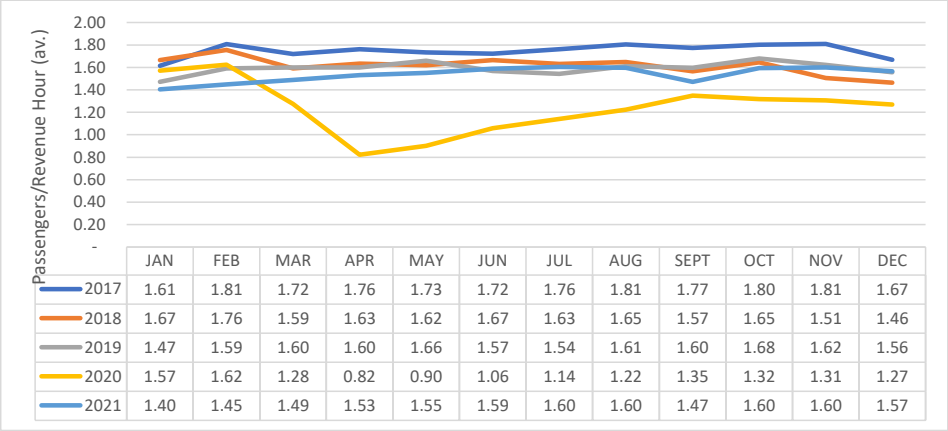
	2017	2018	2019	2020	2021
TOTAL	39,577	40,484	40,904	34,452	31,717

3.5.2 Service Productivity

Service productivity is typically measured by passenger trips per revenue vehicle hour (RVH), noting that some transit agencies include all trips and other transit agencies just include trips taken by registered customers (excluding PCAs and companions). The latter is represented as just "trips per RVH." Generally, the more trips, the denser the trips, and the shorter the trip lengths, the higher productivity should be.

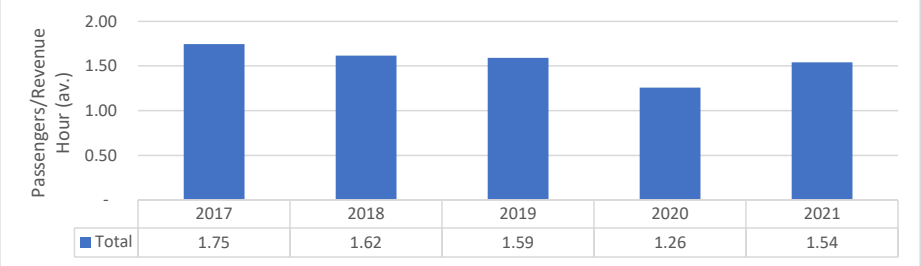
Error! Reference source not found.8 shows the average month-by-month service productivity (as p assenger trips per RVH) for MITS from 2017-2022, while **Error! Reference source not found.** shows the annual productivity figure (again as passenger trips per RVH). As shown, the lower productivity in 2020 was directly tied to the ridership decrease during the pandemic, while in the productivity was higher and fairly consistent from 2017 through 2019, and in 2021. As shown in **Error! Reference source not found.**, t he annual figure for productivity ranged between 1.54 and 1.75 for those four years. The 1.54 productivity figure in 2021 is especially noteworthy, as Transdev was able to achieve essentially the same productivity as in 2019, despite the ridership in 2021 being 25% lower. However, this should also be weighed against MITS' productivity standard of 1.8.

Figure 28. Passenger trips per RVH by month for MITS (2017-2021)



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
2017	1.61	1.81	1.72	1.76	1.73	1.72	1.76	1.81	1.77	1.80	1.81	1.67
2018	1.67	1.76	1.59	1.63	1.62	1.67	1.63	1.65	1.57	1.65	1.51	1.46
2019	1.47	1.59	1.60	1.60	1.66	1.57	1.54	1.61	1.60	1.68	1.62	1.56
2020	1.57	1.62	1.28	0.82	0.90	1.06	1.14	1.22	1.35	1.32	1.31	1.27
2021	1.40	1.45	1.49	1.53	1.55	1.59	1.60	1.60	1.47	1.60	1.60	1.57

Figure 29. Annual passenger trips per RVH for MITS (2017-2021)



3.6 Run Structure vs. Demand Profile Analysis

In this section , the TTI team looks at how the run structures for each day of the week match up with the respective demand profiles for each day. The purpose of this analysis is to identify the times at which there is an under or over-supply of service and the times the supply of service appears to be well-match to the demand. **Error! Reference source not found.** through **Error! Reference source not found.** present th ese analyses for each day of the week. Note also that The TTI Team stripped out data from holidays, such as MLK Jr Day, Mardi Gras week and Memorial Day) which have their own analysis, shown in **Error! Reference source not found.** The data used for this analysis spanned reflected data from January 6, 2022 through June 16, 2022. Also note that some of the days reflect a peak number of runs at 14 vs. a daily peak of 15 runs as reported by Transdev staff in interviews. Nevertheless, this is what the data shows. That said, this discrepancy does not generally impact our observations, which follow.

But before we discuss the alignments between the demand profile and the run structure, it is important to remember that we suspect that the demand profile, as portrayed based on trips completed by hour, may actually be higher, especially in the peaks, than the demand profile curve portrays, because of the booking practices discussed earlier.

Monday (Error! Reference source not found.)

- The demand profile is classic two-peaked curve, with peaks at the 9am and the 2/3pm hours, a mid-day trough, and a severe drop in demand after 4pm.
- The run structure for Monday, similar in pattern to the other weekdays with slight variations, appears to be well-matched to the demand profile, although there are insufficient resources at the peaks.
- There appears to be an oversupply of service at the 5pm and 6pm hours.

Tuesday (Figure 31)

- The demand profile for Tuesday has pronounced peaks at the 8am and 9am hours as well as at the 2pm hour, with trough at 11:00.
- As with Monday, the run structure for Tuesday starts out well-matched up until 8am. However, there appears to insufficient resources at the 8am through the 10am hours and again from the 12noon hour through the 3:00pm hour, with an especially large mismatch at 2pm.

- And like Monday, there appears to be an oversupply of service at the 5pm and 6pm hours.

Wednesday (Figure 32)

- The alignment between the demand profile and the run structure on Wednesday is near identical to Monday, causing similar matches and mismatches, noting that the Wednesday peaks in the morning and afternoon are more pronounced.

- As a result, there is an undersupply of service during each peak, and an oversupply of service at the 5pm and 6pm hours.

Thursday (Figure 33)

- Thursday's demand profile is similar to Tuesdays, with two noticeable exceptions. The am peak demand on Thursdays at the 8am and 9pm hours is lower and the 2pm afternoon peak is higher.

- This creates a mismatch at these hours and especially at the 2pm hour, when there are insufficient resources. Otherwise, there are the same cases of insufficient and surplus resources as on Tuesdays.

Friday (Figure 34)

- Friday's demand profile is very similar to Monday's demand profile, with the same instances of undersupply during most of the day, and oversupply in the evening.

Saturday (Figure 35)

- Saturday's demand profile is peaked at 10am, with another peak at 12noon, with fairly steady demand from the 8am through the 5pm hour.

- There is an insufficient number of resources from the 6am through the 10am hour and again from the 3pm through the 5pm hour.

- There is an oversupply of service from the 5pm hour through the 7pm hour.

Sunday (Figure 36)

- Sunday's demand profile is peaked at 10am, 1pm and 4pm, with troughs in between. WE suspect that the morning and mid-day peaks stem from church-related trips.

- There is an insufficient supply of service at the three peaks.

- There is an oversupply of service at the 6pm and 7pm hours.

Holidays (MLK Jr. Day, Mardi Gras, Memorial Day) (Figures 37 and 38)

- The holiday demand profile peaks between the 8am and the 10am hours and again between the 2pm hour and the 4pm hours, noting that the Monday holiday demand is near identical to the

typical Monday demand but that the Mardi Gras demand is about 35% of the typical Monday demand.

- With a run structure for holidays identical to Monday's run structure, as shown in Figure 91, there is insufficient service throughout the day, from the 6am hour through the 5pm hour, and an acute mismatch from the 6am through the 11am hours and again from the 2pm through the 4pm hours, and a surplus of service at the 6pm hour.

- Interestingly, the Monday run structure is a much closer match to the holiday demand curve. This is shown in Figure 38.

Figure 30. MITS run structure and demand profile – Monday

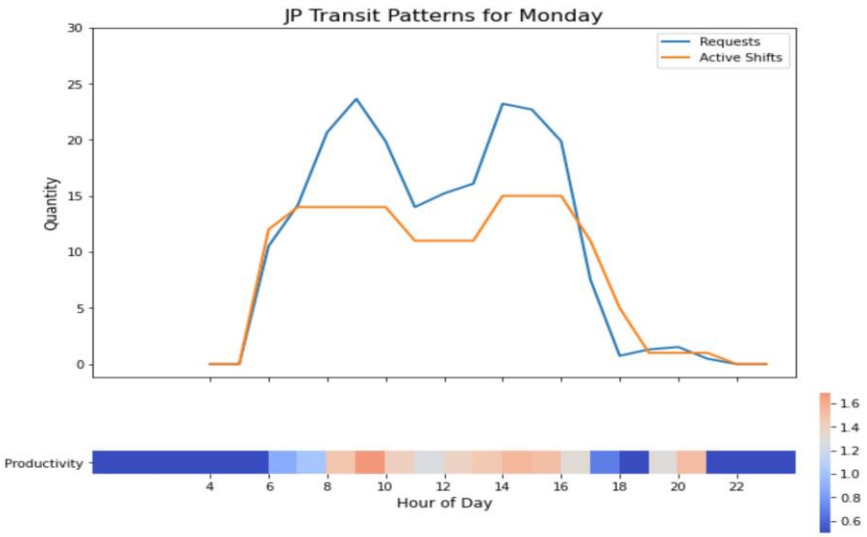


Figure 31. MITS run structure and demand profile – Tuesday

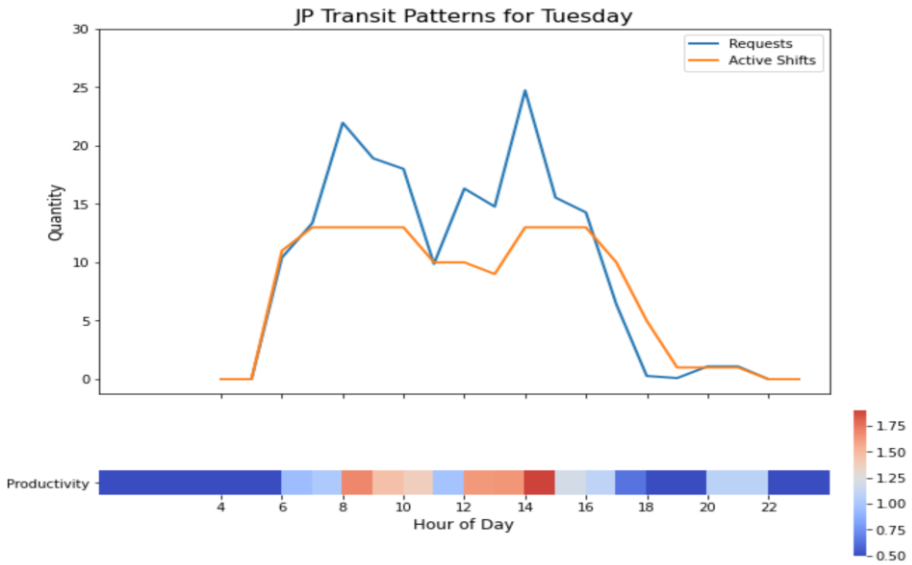


Figure 32. MITS run structure and demand profile – Wednesday

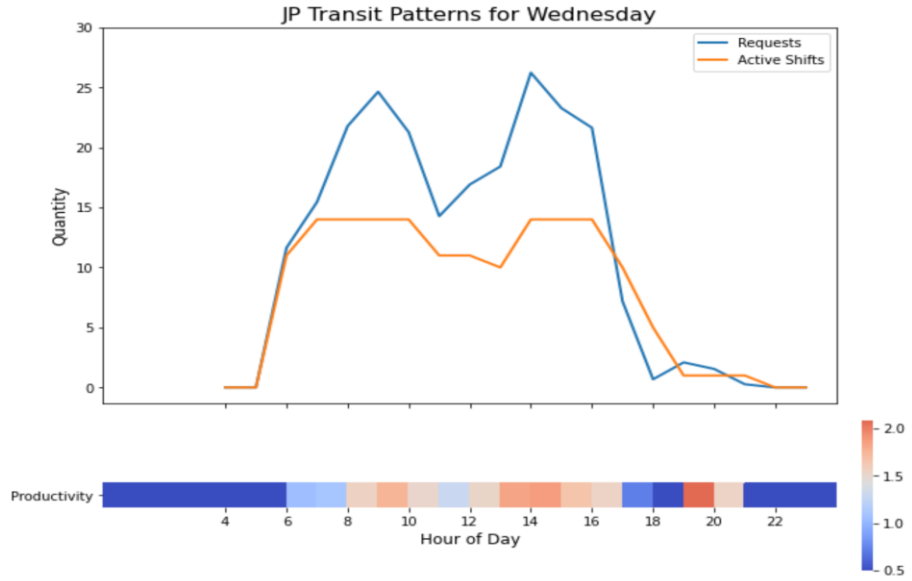


Figure 33. MITS run structure and demand profile – Thursday

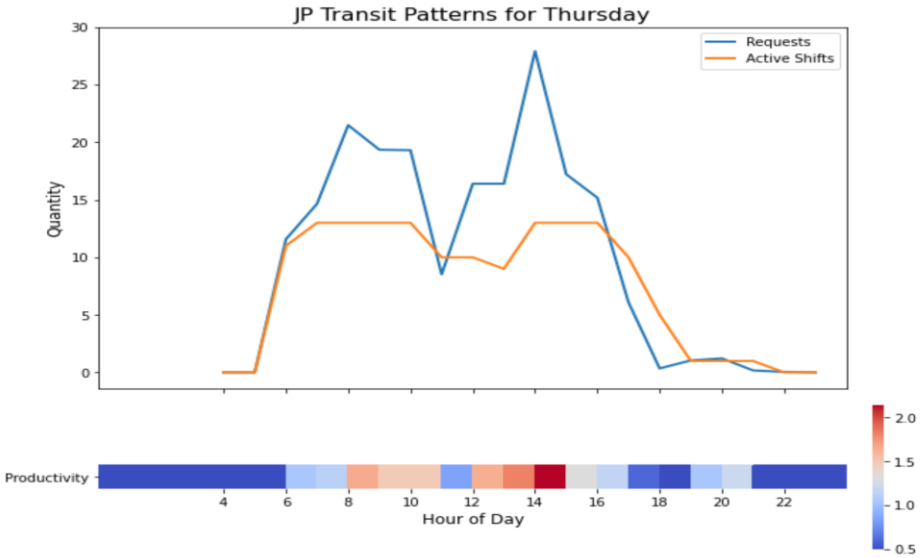


Figure 34. MITS run structure and demand profile – Friday

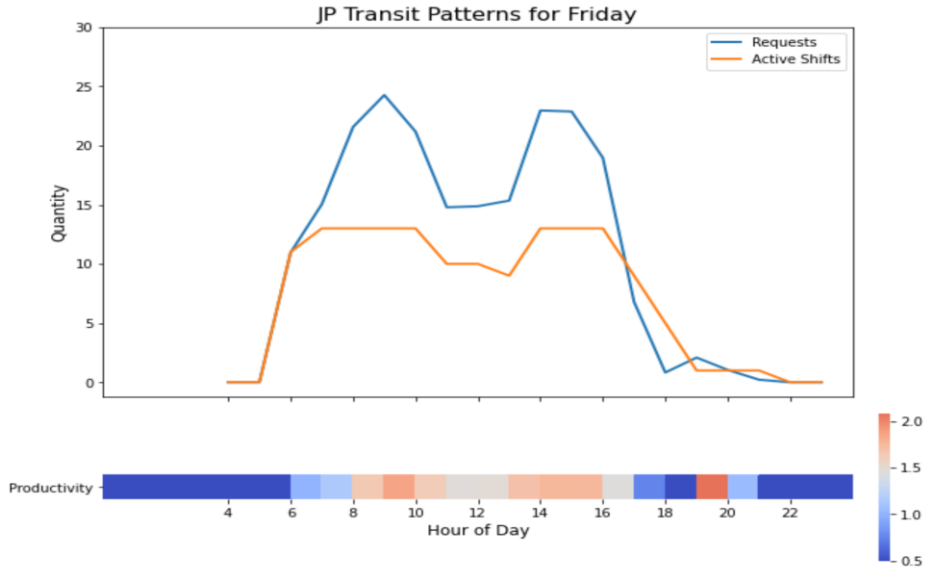


Figure 35. MITS run structure and demand profile – Saturday

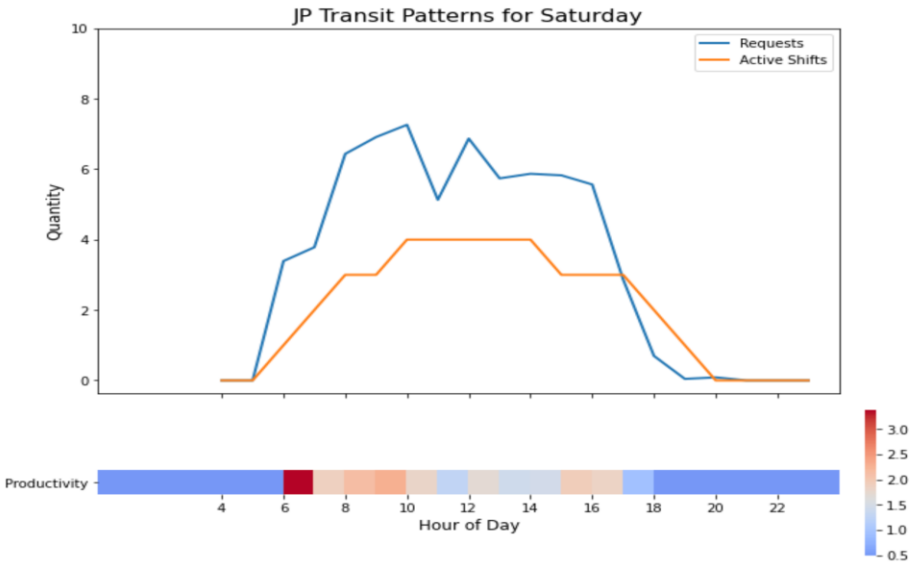


Figure 36. MITS run structure and demand profile for MITS – Sunday

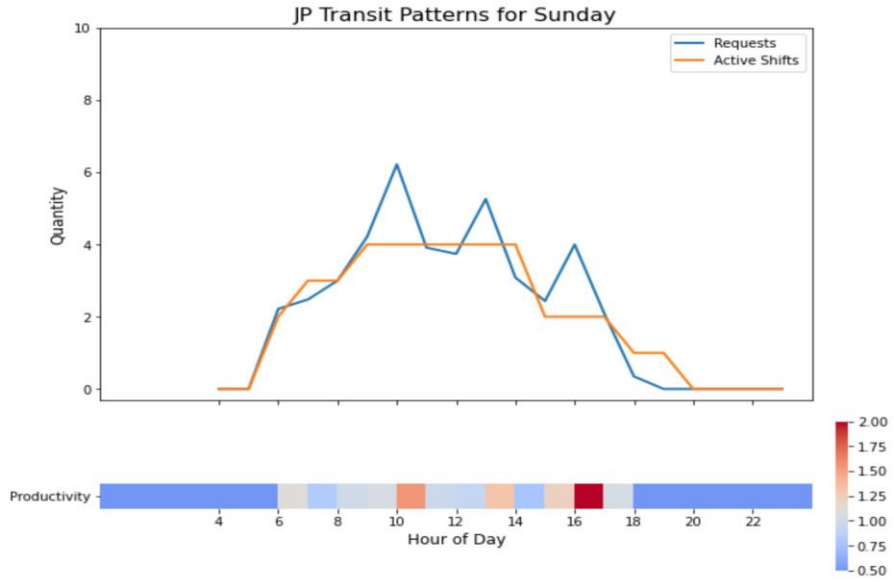


Figure 37. MITS run structure and demand profile – Holidays

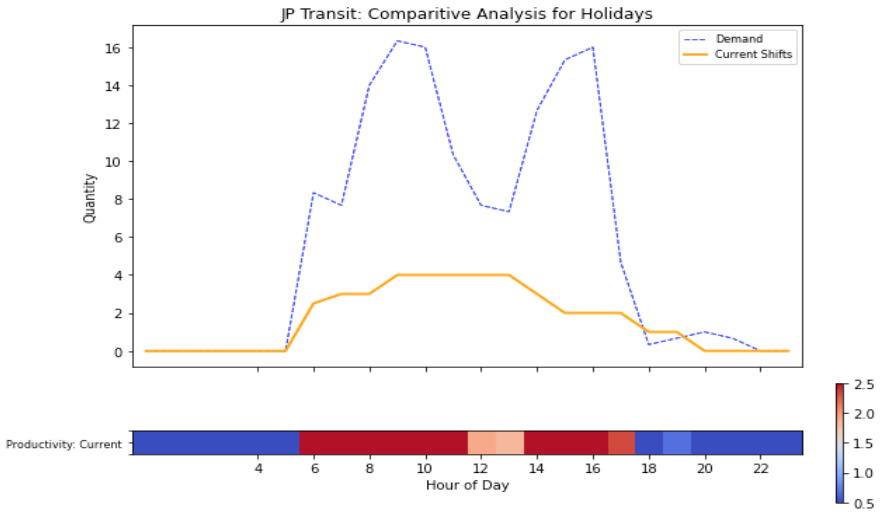
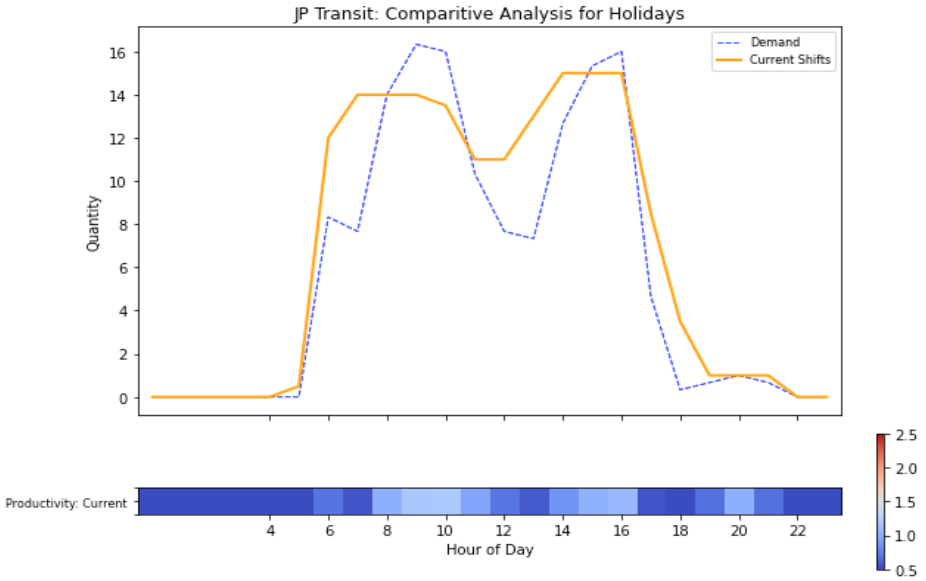

JP Transit: Comparitive Analysis for Holidays
Demand
Current Shifts
Quantity
16
14
12
10
8
6
4
2
0
Productivity: Current
4
6
8
10
12
14
16
18
20
22
Hour of Day
2.5
2.0
1.5
1.0
0.5

Figure 38. Weekday run structure vs. holiday demand profile



3.7 Operating Cost and Cost Efficiency

Error! Reference source not found. shows the total operating expenses for MITS for 2017-2021. Prior to t he pandemic, total expenses were around $3 million. Following a slight reduction during 2020 because of the reduced level of service, total costs increased to almost $3.5 million in 2021. This reflected a 12% increase over the 2019 total. In large part, this was attributable to an increase in contractual hourly rates, due to rising costs not atypical in the industry. Annual costs per RVH are presented in **Error! Reference s ource not found.**

Figure 39. Total operational costs (2017-2021)

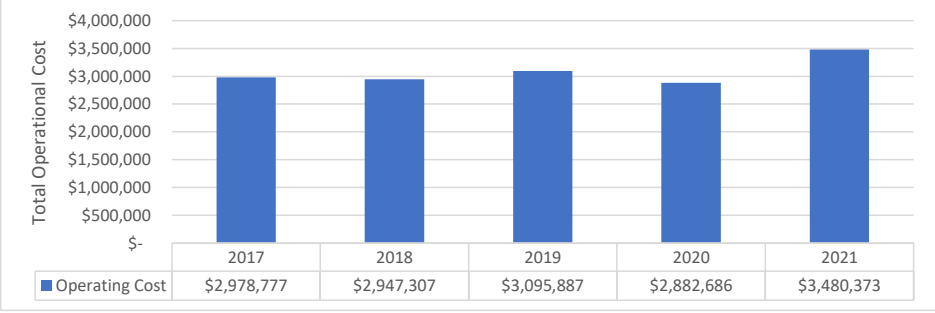


Figure 40. Operating cost per revenue vehicle hour (2017-2021)

Error! Reference source not found. presents operating cost per passenger trip for MITS from 2017-2021. T his unit cost shows a gradual rise from 2017 through 2019, and then jumped 40% in 2020, and another 7% in 2021, despite the improved productivity. If one compares the increase from 2019 to 2021, the operating cost per passenger trip **increased 50%**. Comparing the decrease the number of trips and revenue hours from 2019 to 2021, both decreased between 22%-23%. Moreover, the productivity in those years was also nearly identical at 1.59 and 1.54 respectively. Therefore, one may conclude that the dramatic increase in operating cost per trip from 2019 to 2021 ties largely to the increase in hourly rates and monthly fixed costs.

Figure 41. Operating cost per passenger trip for MITS (2017-2021)

3.8 Service Quality Metrics

The two most common metrics used to measure paratransit service quality are on-time performance (OTP), which points to the reliability of a service, and complaint frequency ratio (CFR), which is the number of complaints per 10,000 passenger trips.

3.8.1 On-Time Performance

MITS' contractual on-time performance standard is 88%, noting that most ADA paratransit services have OTP standards of 90% or above.

Transdev did not provide any reports showing on-time performance for 2017 through 2021. Thus. TTI was unable to prepare a trend analysis on OTP, similar to that which was prepared for LIFT, for this report.

However, the TTI Team analyzed Trapeze data for January 6 through June 16, 2022. The findings are presented in Table 3. As shown, of the 26,289 trips in the data set, there were only 117 "late trips" (i.e., with arrivals later than the negotiated/confirmed pick-up window, reflecting a late trip percentage of less than 1%, an outstanding achievement. At the same time, there were 6,446 "early" trips, reflecting 25% of the trips. Although not as severe, there is no doubt that an early trip also impacts customer experience but noting that none of the MITS focus group participants indicated there was not any kind of driver coercion to board early.

Of the remaining trips, there were 10,225 trips (39%) with time data indicating an on-time pick-up, while 9,501 trips (36%) were lacking the data from which an early, on-time or late pick-up could be determined. If one assumes that the trips with missing data have a similar split, then the early trips reflect 38% of the trips, the on-time trips reflect 61%, and the late trips less than 1%. However, without data for those 9,500 trips, a true on-time performance cannot be calculated.

Table 3. On-time Performance (January 6 – June 16, 2022)

Trip Status	Number of Trips	Percentage of All Trips	Percentage of Trips with Data
Early	6,446	24.52%	38.40%
On-Time	10,225	38.89%	60.91%
Late	117	0.45%	0.70%
No data	9,501	36.14%	
Total	26,289	100%	100%

3.8.2 Complaint Frequency Ratio (CFR)

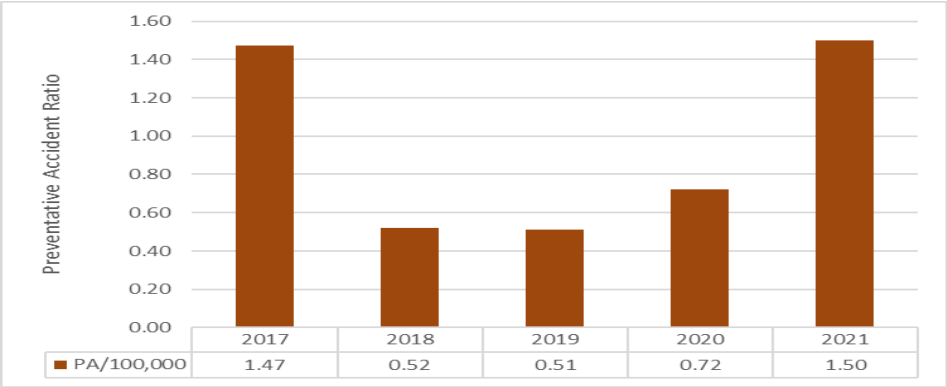
Transdev did provide any data on complaints, stating that they had received only two complaints since the beginning of the year.

3.9 Safety and Maintenance Effectiveness

3.9.1 Accident Frequency Ratio

Error! Reference source not found. shows the preventable accident ratio (preventable accidents per 1 00,000 total miles) for MITS service from 2017-2021. Generally, most transit agencies try to keep their AFR below 1.0. The MITS AFR was below this target from 2018 through 2020. However, MITS' AFR doubled to 1.5 for 2021.

Figure 42. Accident Frequency Ratio (2017-2021)



3.9.2 Miles between Road Calls

Data on the number of road calls nor miles between road calls were provided to the study team..

3.10 Possible Capacity Constraints

The section highlights observations of possible constraints in service capacity for LIFT, based on analysis of available data. TTI's observations are on five key metrics that, as are commonly reviewed by FTA ADA paratransit reviewers: patterns of (1) denials; (2) late trips; (3) missed trips; (4) excessively long trips; and (5) substandard telephone access. Not only do FTA reviewers look for such patterns, but they also determine whether a transit agency has in place processes to identify such patterns. Note too that it is not just whether or not a transit agency has reached or not reached a certain threshold, but whether there are patterns, nevertheless. For example, while a transit agency might have achieved a 90% OTP, a pattern of late trips might be tied to trips from a certain area or at a certain time, indicating there are not enough resources in that area or time to handle demand. Similarly, while an agency might have a very low average hold time, a pattern of hold times on a certain day of the week and certain time might point to not enough reservation agents at that time to handle the number of calls, another example of a capacity constraint in the eyes of the FTA.

3.10.1 Patterns of Denials

Definition – The accepted definitions of denials are as follows:

(1) A trip request that cannot be accommodated at the requested time +/- 60 minutes (within reason) because of capacity constraints, or

(2) A trip request can be accommodated but beyond the +/- 60-minute negotiation period, with the rider either choosing to accept or to refuse the offered pick-up time. Either way, it's a denial.

One cautionary note about the first part of the definition. The phrase "within reason" is part of the definition because there are circumstances when a pick-up time is available and offered within 60 minutes of the requested pick-up time, but that time is incompatible with appointment times, work or class start or end times, building opening and closing times, etc. For example, the pick-up time for a return trips is offered at time when the rider has not yet concluded his/her workday.

The second part of the definition needs to be heeded. It is common in in the industry for such denials to not be tracked, and indeed, MITS staff does not currently track these; per the definition, denials include cases where a trip request is assigned a pick-up time that is beyond the one hour trip negotiation window. Even if this trip is served, it is also still a denial.

As discussed previously, there have been few trip denials for MITS service since March 2020 If this trend is consistent and accurate, there may not be an issue with capacity constraints. However, the run structure vs. demand profile analyses for each day of the week in Section 6 strongly suggest that there is a capacity constraint. Moreover, based on the input from MITS riders participating in the rider focus groups, riders are being dissuaded from calling in for trips in the days leading up to the trips date, with MITS reservation agents stating to riders that the likelihood of getting a trips at the desired time requires the rider to call in "7 days before the trip date, right at 8:00." In other words, as early as possible, based on MITS advance reservation policies and reservations hours. Both of these points suggest that if riders regularly called in for a next-day trips (as permitted by the ADA), there would be far more denials, remembering the second party of the definitions above.

Moreover, as previously discussed in Section 2, there were **1,002 trips from January 6 to June 16 (or 3.8 of the total) that should have been labeled as a denial**, based on the second definition above, but were not tracked as denials.

3.10.2 Patterns of Late Trips

Definition – FTA policy leaves to the local transit agency the details and span size of the pick-up window for ADA paratransit service as well as any other details of what is considered on-time vs late. It is generally a good idea to also involve the disability community as it develops any standards. A trip is considered to be ***on time*** at the pick-up location if

- the vehicle arrives within the confirmed pick-up window that is confirmed with the customer
- the trip is completed

With respect to the first part of the definition, a scheduled pick-up time is typically confirmed either at the time of the request or, in cases where trips are scheduled later, after the trip has been scheduled.

As discussed in Section 2, MITS tracks on-time performance for only pick-ups. If a customer does indicate a requested drop-off time or appointment, this information is "converted" by the reservation agent to a pick-up time, while the requested drop-off or appointment is "lost". Thus, for the very important trips, such as work trip and medical trips, when a rider needs to be at a specific destination at a specific time, MITS does not have the data to be able to gauge on-time performance

In terms of pick-up OTP, the TTI team did conduct an analysis Trapeze data from January 6 through June 16, 2022, finding that there were only 117 late pick-ups or 0.45% of the total trips, which is quite an achievement. However, of the 26,289 trips in this data set, there were 9,501 trips (or 36% of the total) that did not have time points necessary to determine whether a trip was early, on-time or late. This is staggering figure. Whether this results for malfunction of in-vehicle equipment or drivers simply not performing their arrivals or lack of trip reconciliation efforts or a combination of these three, Transdev needs to make correcting this one of its highest priorities.

In addition, some transit agencies also have established a drop-off window for trips requested based on a drop-off time or where an appointment time or work/class start time is made known. These transit establish a drop-off window, not only to track on-time performance at the drop-off such trips, but also to ensure that vehicle does not arrive too early. Common spans include -15/0 and -20/0. Some agencies also have adopted a policy that a rider cannot be dropped off "x" minutes before a building opens up in the morning, if that open time is communicated by the rider.

3.10.3 Patterns of Missed Trips

Definition - A missed trip is an event where (1) the vehicle never arrives; (2) the vehicle arrives early and departs before the pick-up window begins; (3) the vehicle arrives on-time or late but departs before the 5-minute wait time is over; (4) a driver fails to carry out specific instructions included with the reservation (e.g., a specific building entrance, door-to-door assistance, honk on arrival, etc.), which results in the rider missing their ride; or (5) the vehicle arrives after the pick-up window and the customer does not appear or cancels-at-door. Such an event is the fault of the service delivery operator, and not the rider. Missed trips are not no-shows and need to be tracked separately as they are, again, one of five metrics that point to the possibility of a capacity constraint, which is a compliance issue. It was clear to TTI in its interviews that MITS staff did not have a grasp of all of these definitions.

From 2017 to 2021, Transdev recorded missed trips in only two months: 2 missed trips in February 2017, and 1 missed trip in January 2020. It is surmised by this infrequency as well as input from the MITS riders that missed trips are not routinely and correctly being identified, based on the above destinations.

3.10.4 Patterns of Excessively Long Trips

Definitions - For ADA paratransit services, the FTA defines an excessively long trip as a travel time that is longer than travel time for the same trip taken on fixed route transit service, adding in travel time to/from stops and reasonable wait and transfer times.

A pattern of excessively long ADA paratransit trips may indicate a capacity constraint (e.g., if limited supply of service forces schedulers and dispatchers to share rides to the point where a rider is on-board for an excessively long period). As with the above metrics, MITS staff needs to design and implement a process to periodically ensure that there is not a pattern of excessively long trips, as compared to the trip time of comparable transit trips. For example, if more than 5% of the sampled ADA paratransit trips have trip times that are 10% or greater than the trips times of comparable transit trips, it is advised that a third party (Jefferson Parish or Solutient) investigate a greater sample to determine the possible existence of a pattern.

3.10.5 Patterns of Substandard Hold Times

Definition – Telephone access is usually defined in two ways: (1) the number or percentage of incoming calls that have a wait time of under "X" minutes or seconds in any day and hour; and (2) the number of calls that exceed a maximum (not to exceed) hold time, e.g., 5 minutes. And in both cases, it is important the average hold time and max hold time for each hour of each date be reported.

Telephone access is another service quality metric that can also point to a capacity constraint if there is an insufficient number of call-takers (or telephone lines) to handle the demand. Most incoming calls from customers can be categorized into four groupings, noting that capacity issues focus on the first three as the more critical:

- Service requests, subdivided further into advance reservations vs. same-day requests (if allowed) such as will-calls.
- Cancellations.
- Same-day customer issues (e.g., ETA requests and "where's my ride?" calls)
- General requests for information

At MITS, all of these calls come into the same staff. Given the MITS hold times are quite low, as reported in Section 3.4, customers' telephone based access to MITS' call and control staff would appear not to be constrained. That said, there is contrasting input from the MITS riders, who in the rider focus group concurred that over the past year, hold times have consistently been between 15 and 30 minutes at any time of day. But again, the data would suggest otherwise.

3.11 Peer Review

3.11.1 Introduction and Rationales for Peer Selection

The TTI team identified eight transit agencies as possible peer agencies to the JP Transit, focusing on transit agencies with similar ADA paratransit ridership, service area, service area density and service characteristics (e.g., trip length). The team's selection criteria also considered the service delivery models, attempting to identify ADA paratransit services that were either partially or entirely purchased transportation service, and regional settings for the peer agencies relative to their metropolitan areas.

Using primarily NTD data for the preliminary assessment supplemented with the TTI's knowledge of transit agencies' practices, the list was narrowed down to 4 main peers which focuses on the cost per revenue hour and total unlinked passenger trips as further factors for service similarity. NORPC approved the first four "peer" systems by email:

- Greater Bridgeport Transit Authority (Connecticut)
- City of Thousand Oaks, dba: Thousand Oaks Transit (California)
- City of Alexandria (Virginia)
- Cobb County, dba: CobbLinc (Georgia)

The TTI team reached out to each of these four transit agencies; Thousand Oaks Transit and City of Alexandria declined due to lack of available staff time. The team decided to next reach out to Sioux Area Metro in South Dakota and Fayetteville Area System of Transit (FAST) in North Carolina from the list of backups. FAST was only able to provide partial information to the peer request inquiry, so TTI additionally reached out to Manatee County Area Transit in Florida; that agency proved to be unresponsive. The final four agencies included in this peer review are:

- Greater Bridgeport Transit Authority (GBTA) (Connecticut)
- Cobb County, dba: CobbLinc (Georgia)
- Sun Tran LLC dba: Sioux Area Metro (SAM) (South Dakota)
- City of Fayetteville, dba: Fayetteville Area System of Transit (FAST) (North Carolina)

Summaries of each of the ADA paratransit services for GBTA, CobbLinc, SAM, and FAST are presented below. Tables of their service characteristics and service performance metrics for each follow the descriptions. After these tables, MITS' ridership, cost and other performance metrics are compared with the performance metrics for three of the four peers (excluding FAST).

3.11.2 Peer System Descriptions

Greater Bridgeport Transit Authority – GBT Access

GBTA in Bridgeport, CT was selected as a peer agency due to their similar size and trips per capita. GBTA has a service area of 100 square miles (vs. the JP Transit's 94 square miles) and trips per capita according to 2019 NTD data were 0.106 (vs. 0.072 in Jefferson Parish).

Its ADA paratransit service, GBT Access, is contracted to MV Transportation and provides door-to-door level of driver assistance. GBT Access' total passenger trips during the 2021 fiscal year period were 53,290, higher than the 2021 trips for MITS at 39,795.

Other than providing door-to-door service, GBT Access has other small differences compared to MITS. GBT Access uses Stratagen software with MDT/IVLU in-vehicle equipment, compared to Trapeze software with tablets for MITS. GBT Access only serves the ADA-required area around its fixed route system, and it has operationalized conditional eligibility for approximately 9% of customers (done by the reservation office during trip booking). Both services have approximately the same number of dedicated vehicles (17 compared to 18 for MITS), but 2 of GBT Access' 17-vehicle fleet are sedans. GBTA does not share any paratransit vehicles with their fixed-route service.

CobbLinc – CobbLinc Paratransit

CobbLinc was selected as a peer agency due to their similar number of service size and their geographic setting relative to the neighboring large city. CobbLinc is based in Marietta, GA, a growing suburb northwest of Atlanta. Cobb Linc has a service area of 210 square miles (vs. 94 for JP Transit) and a service area density of 3,277 (vs. 4,671 for JP Transit). CobbLinc's ADA paratransit is called CobbLinc Paratransit, providing curb-to-curb service in the ADA-required area (with some door-to-door assistance if needed by the customer).

CobbLinc also has a Senior Voucher Program for county residents who would qualify for CobbLinc Paratransit but live outside the service area; these residents are given vouchers to use for local taxicab service. Data for the voucher program was not available for this peer review.

In 2021, CobbLinc Paratransit ridership totaled 59,909 (compared to 39,795 for MITS service). CobbLinc also has a similar service model, contracting all services to First Transit and using only dedicated service for CobbLinc Paratransit. Both agencies use Trapeze software, while CobbLinc Paratransit vehicles are equipped with GreyHawk MDTs and DriverMate. CobbLinc has more total fleet vehicles for CobbLinc Paratransit at 31, but only has a peak pull-out of 11 vehicles. Additionally, 5 of CobbLinc's paratransit vehicles are shared with fixed-route service. CobbLinc Paratransit does not have conditional eligibility. Of all ADA applications received in 2021, the agency estimates that 4 percent were denied.

Sioux Area Metro – Sioux Area Metro Paratransit

SAM in Sioux Falls, SD was selected as a peer agency back-up due to their smaller total demand response passenger trips and similar cost effectiveness metrics according to 2019 NTD data. SAM has a service area of 51 square miles (vs. 94 for JP Transit) and a service area density of 2,773 (vs. 4,671 for JP Transit; the City of Sioux Falls also differs in comparison by not being part of a larger metropolitan area. SAM's paratransit service is called Sioux Area Metro Paratransit (shortened to SAM Paratransit for the remainder of this peer review).

SAM Paratransit had 50,934 passenger trips in 2021, higher than MITS' 39,795. Like CobbLinc, SAM contracts their service to First Transit and uses only dedicated vehicles for SAM Paratransit; the service provides both door-to-door and curb-to-curb service, depending on the customer. SAM Paratransit service is confined to the ADA required service area. Conditional eligibility is operationalized by the reservationists during trip booking; SAM estimates that 27 percent of applicants are approved conditionally based on the path of travel, while another 2 percent of applicants are conditionally approved by other criteria (e.g., seasonal weather, etc.). The agency denied approximately 10 percent of applications for SAM Paratransit in 2021.

SAM Paratransit uses 21 total WAVs with a peak pull-out of 13 vehicles (compared to 18/15 for JP Transit). None of SAM Paratransit's vehicles are shared with fixed-route service. Vehicles are equipped with tablets, while SAM uses Routematch software for scheduling and dispatch.

Fayetteville Area System of Transit (FAST) – FASTTRAC!

FAST was selected as a peer agency due to their similar service area size as well as comparable demand response ridership and cost productivity metrics according to 2019 NTD data. FAST has a service area of 95 square miles (only 1 square mile larger than JP Transit) but a lower total population, translating to a service area density of 1,751 (compared to 4,671 for JP Transit). FAST's ADA paratransit service is called FASTTRAC!

FAST was able to provide some information about the FASTTRAC! service model and technology used for scheduling and vehicles for this peer review. FASTTRAC! provides curb-to-curb service with the required ADA service area and has been fare free since 2020 (beginning during the COVID-19 pandemic) FASTTRAC! dedicated service is operated in-house by the transit agency, but FASTTRAC! also uses a local company called Famiks for some non-dedicated service. According to staff, 100 percent of applications for FASTTRAC! were approved for unconditional eligibility in 2021.

FASTTRAC! uses Routematch for scheduling and dispatch along with tablets and two-way radios in their vehicles. The dedicated fleet consists of 18 cutaway buses and 2 minivans, presumably all wheelchair accessible. In 2021, FASTTRAC! had 60,135 total passenger trips, higher than 39,795 passenger trips for MITS service. The agency provided information that 9,631 of their total trips were provided by Famiks.

3.11.3 Peer Service Comparisons

Service characteristics and performance standards and metrics for JP Transit and each of the four peers' ADA paratransit services are found in the tables on the following pages. The comparative analysis – comparing the ridership, unit costs and service performance of MITS to the other demand-responsive services with those of the four peers follows these tables.

Jefferson Parish Transit (JP Transit) – MITS service

Service Characteristics	
Service Area	
Service area (sq. miles)	94
Service area population	439,036
Service area density	4,670.6
Traffic Congestion	
Delay per Auto Commuter	54 hours
Planning Time Index	42 minutes
Travel Time Index	27 minutes
Eligibility	**MITS service**
Eligible riders	Unknown
ADA applications - results	100%
- % unconditional	Unknown
- % conditional - path of travel	Unknown
- % conditional - other	Unknown
- % denied	Unknown
Conditional eligibility operationalized?	Unknown
Transit free-fare program	No
Service Type and Model	
Call and control functions	Transdev
Dedicated service operator	Transdev
Non-dedicated service providers	N/A
Dedicated vs non-dedicated	100% / 0%
Service areas zoned?	No
Extended service area	Service into Orleans Parish (since March 2022)
Door-to-door vs curb-to-curb	Curb-to-curb
Technology	
Sched/dispatch software	Trapeze
In-vehicle equipment	Tablets
Direct dispatch to NDSPs	n/a
Rider apps	n/a
2021 Trips, Mi/Trip	
Total trips	48,932
- Registrant trips	39,947
- PCA / companion trips	8,985
- Ambulatory trips	Unknown
- WC trips (reg/xlarge)	Unknown
- Conditionally eligible trips	Unknown
- Feeder trips	n/a
Average Trip Length	6.0 miles

Jefferson Parish Transit (JP Transit) – MITS service (continued)

Fleet	MITS service
Total/peak pull-out	23 (18 + 5 COA vehicles) / 15
WAVs/Sedans	18 / 0
# veh shared w/ FRT or other Service	5
Average operating speed	9.2 MPH
Performance Metrics (2021)	
Service Efficiency	
Productivity – Combined – Standard	1.8
Productivity – Combined – Actual	1.54
Productivity – Dedicated – Standard	1.8
Productivity – Dedicated – Actual	1.54
Productivity – Non-Dedicated – Std	n/a
Productivity – Non-Dedicated – Act	n/a
Cost Efficiency	
Operating Cost per Trip	$71.13
Operating Cost per RVH	$109.73
On-Time Performance	
Pickup – Standard	None (+/- 15 minutes scheduled time)
Pickup – Actual	99%
Dropoff – Standard	None
Dropoff – Actual	n/a
On-Board Travel Time*	
Avg/Max Standards	n/a
% excessively long trips – Standard	n/a
% excessively long trips – Actual	n/a
Missed Trip	
Missed Trip % – Standard	n/a
Missed Trip % – Actual	>0.1%
Telephone Access	
Avg/Max Hold Times – Standard	n/a
Avg/Max Hold Times –Actual	0:11
Complaint Frequency Ratio	
Comp/10,000 trips – Standard	n/a
Comp/10,000 trips – Actual	Unknown
Preventive Accident Ratio	
PA/100,000 miles – Standard	n/a
PA/100,000 miles - Actual	3.00
Miles Between Road Calls	
Standard	n/a
Actual	Unknown

Greater Bridgeport Transit Authority – GBT Access

Service Characteristics	
Service Area	
Service area (sq. miles)	100
Service area population	354,628
Service area density	3,546.3
Traffic Congestion	
Delay per Auto Commuter	58 hours
Planning Time Index	38 minutes
Travel Time Index	26 minutes
Eligibility	**GBT Access**
Eligible riders	
ADA applications - results	1,766
- % unconditional	1,604 – 91%
- % conditional - path of travel	0%
- % conditional - other	162 – 9%
- % denied	0%
Conditional eligibility operationalized?	By reservation office
Transit free-fare program	None
Service Type and Model	
Call and control functions	Contracted – MV Transportation
Dedicated service operator	MV Transportation
Non-dedicated service providers	None at this time.
Dedicated vs non-dedicated	N/A
Service areas zoned?	Not at this time.
Extended service area	None at this time – ADA required area only.
Door-to-door vs curb-to-curb	Door-To-Door
Technology	
Sched/dispatch software	Stratagen
In-vehicle equipment	MDT/IVLU
Direct dispatch to NDSPs	N/A
Rider apps	None at this time.
2021 Trips, Mi/Trip	
Total trips	July 1, 2020 – June 1, 2021
- Registrant trips	53,290
- PCA / companion trips	2,159
- Ambulatory trips	51,131
- WC trips (reg/xlarge)	14,930
- Conditionally eligible trips	Unknown
- Feeder trips	Unknown
Average Trip Length	Approximately 6.32 Miles.

Greater Bridgeport Transit Authority – GBT Access (continued)

Fleet	GBT Access
Total/peak pull-out	17 / 17
WAVs/Sedans	15/2
# veh shared w/ FRT or other Service	None.
Average operating speed	12.79 (based on mileage and service hours NTD 2020)
Performance Metrics (2021)	
Service Efficiency	
Productivity – Combined – Standard	No formal target. Pre-pandemic was approximately 2.7
Productivity – Combined – Actual	2.12 (Includes late cancellations and no-shows)
Productivity – Dedicated – Standard	No formal target. Pre-pandemic was approximately 2.7
Productivity – Dedicated – Actual	2.12 (Includes late cancellations and no-shows)
Productivity – Non-Dedicated – Std	N/A
Productivity – Non-Dedicated – Act	N/A
Cost Efficiency	
Operating Cost per Trip	$38.70
Operating Cost per RVH	$90.91
On-Time Performance	
Pickup – Standard	30 min. window. 15 before and after promise.
Pickup – Actual	85.91% (early and on time – in window)
Dropoff – Standard	N/A
Dropoff – Actual	N/A
On-Board Travel Time*	
Avg/Max Standards	
% excessively long trips – Standard	75 Min. + (generally, we also conduct audits of other durations)
% excessively long trips – Actual	Generally, < 1%
Missed Trip	
Missed Trip % – Standard	0
Missed Trip % – Actual	39 during FY 2021
Telephone Access	
Avg/Max Hold Times – Standard	None
Avg/Max Hold Times –Actual	27 Sec.
Complaint Frequency Ratio	
Comp/10,000 trips – Standard	0
Comp/10,000 trips – Actual	42/5.329 = 7.89 (ADA Ridership Only)
Preventive Accident Ratio	
PA/100,000 miles – Standard	.39 (PTASP Target)
PA/100,000 miles - Actual	.42 in 2021, 1.23 in 2022
Miles Between Road Calls	
Standard	No Standard
Actual	13,390

CobbLinc – CobbLinc Paratransit

Service Characteristics		
Service Area		
Service area (sq. miles)	210	
Service area population	688,078	
Service area density	3,276.6	
Traffic Congestion		
Delay per Auto Commuter	78 hours	
Planning Time Index	40 minutes	
Travel Time Index	26 minutes	
Eligibility	**CobbLinc Paratransit**	**Senior Voucher Program**
Eligible riders	46,703	Subsidized vouchers (within county; outside service area)
ADA applications - results		
- % Unconditional	96%	
- % Conditional - path of travel	0%	
- % Conditional - other	0%	
- % Denied	4%	
Conditional eligibility operationalized?	No	
Transit free-fare program	N/A	
Service Type and Model		
Call and control functions	In-House	
Dedicated service operator	First Transit	
Non-dedicated service providers	None	
Dedicated vs non-dedicated	N/A	
Service areas zoned?	No	Voucher Origin within the county
Extended service area	N/A	
Door-to-door vs curb-to-curb	Curb-to-Curb(door to door if needed)	
Technology		
Sched/dispatch software	Trapeze V18	
In-vehicle equipment	GreyHawk MDTs/DriverMate	
Direct dispatch to NDSPs	N/A	
Rider apps	N/A	
2021 Trips, Mi/Trip		
Total trips	59,909	
- Registrant trips	46,703	
- PCA / companion trips	13,206	
- Ambulatory trips	50,990	
- WC trips (reg/x-large)	8,919	
- Conditionally eligible trips	0	
- Feeder trips	0	
Average Trip Length	-	

CobbLinc – CobbLinc Paratransit (continued)

Fleet	CobbLinc Paratransit	Senior Voucher Program
Total/peak pull-out	31/11	
WAVs/Sedans	0	
# Veh shared w/ FRT or other Service	5	
Average operating speed	27 mph	
Performance Metrics (2021)		
Service Efficiency		
Productivity – Combined – Standard	N/A	
Productivity – Combined – Actual	1.16	
Productivity – Dedicated – Standard	N/A	
Productivity – Dedicated – Actual	1.16	
Productivity – Non-Dedicated – Std	N/A	
Productivity – Non-Dedicated – Act	N/A	
Cost Efficiency		
Operating Cost per Trip	$38.13	
Operating Cost per RVH	$82.21	
On-Time Performance		
Pickup – Standard	N/A	
Pickup – Actual	81.64%	
Dropoff – Standard	N/A	
Dropoff – Actual	92.43%	
On-Board Travel Time*		
Avg/Max Standards		
% excessively long trips – Standard	N/A	
% excessively long trips – Actual	**We don't have an Onboard standard- in the event of a complaint, we compare the length of trip to what a comparable trip on FX would be.*	
Missed Trip		
Missed Trip % – Standard	N/A	
Missed Trip % – Actual	0.17%	
Telephone Access		
Avg/Max Hold Times – Standard	N/A	
Avg/Max Hold Times –Actual	00:08 seconds	
Complaint Frequency Ratio		
Comp/10,000 trips – Standard	N/A	
Comp/10,000 trips – Actual	45.07	
Preventive Accident Ratio		
PA/100,000 miles – Standard	N/A	
PA/100,000 miles - Actual	1.33	
Miles Between Road Calls		
Standard	N/A	
Actual	1,510.60	

Sioux Area Metro – Sioux Area Metro Paratransit

Service Characteristics	
Service Area	
Service area (sq. miles)	51
Service area population	141,400
Service area density	2,772.5
Traffic Congestion	
Delay per Auto Commuter	9 hours
Planning Time Index	n/a
Travel Time Index	21 minutes
Eligibility	**Sioux Area Metro Paratransit**
Eligible riders	752 (431 active)
ADA applications - results	
- % unconditional	61%
- % conditional - path of travel	27%
- % conditional - other	2%
- % denied	10%
Conditional eligibility operationalized?	Yes (by reservationists)
Transit free-fare program	
Service Type and Model	
Call and control functions	In-house
Dedicated service operator	First Transit
Non-dedicated service providers	n/a
Dedicated vs non-dedicated	100% / 0%
Service areas zoned?	No
Extended service area	No
Door-to-door vs curb-to-curb	Both
Technology	
Sched/dispatch software	Routematch
In-vehicle equipment	tablets
Direct dispatch to NDSPs	n/a
Rider apps	No
2021 Trips, Mi/Trip	
Total trips	50,934
- Registrant trips	49,885
- PCA / companion trips	695 / 354
- Ambulatory trips	70% (~35,654)
- WC trips (reg/xlarge)	30% (~15,280)
- Conditionally eligible trips	Unknown
- Feeder trips	N/A
Average Trip Length	5.2 miles

Sioux Area Metro – Sioux Area Metro Paratransit (continued)

Fleet	Sioux Area Metro Paratransit
Total/peak pull-out	21/13
WAVs/Sedans	21/0
# veh shared w/ FRT or other Service	0
Average operating speed	17.1 mph
Performance Metrics (2021)	
Service Efficiency	
Productivity – Combined – Standard	n/a
Productivity – Combined – Actual	2.63
Productivity – Dedicated – Standard	n/a
Productivity – Dedicated – Actual	2.63
Productivity – Non-Dedicated – Std	n/a
Productivity – Non-Dedicated – Act	n/a
Cost Efficiency	
Operating Cost per Trip	$47.23
Operating Cost per RVH	$124.27
On-Time Performance	
Pickup – Standard	30 minutes after the pickup time
Pickup – Actual	100%
Dropoff – Standard	n/a
Dropoff – Actual	n/a
On-Board Travel Time*	
Avg/Max Standards	n/a / 1 hour
% excessively long trips – Standard	n/a
% excessively long trips – Actual	0%
Missed Trip	
Missed Trip % – Standard	n/a
Missed Trip % – Actual	0.05%
Telephone Access	
Avg/Max Hold Times – Standard	n/a
Avg/Max Hold Times –Actual	0:16
Complaint Frequency Ratio	
Comp/10,000 trips – Standard	n/a
Comp/10,000 trips – Actual	2.36
Preventive Accident Ratio	
PA/100,000 miles – Standard	n/a
PA/100,000 miles - Actual	0.59
Miles Between Road Calls	
Standard	n/a
Actual	9,167.1

Fayetteville Area System of Transit (FAST) – FASTTRAC!

Service Characteristics	
Service Area	
Service area (sq. miles)	95
Service area population	166,334
Service area density	1,750.9
Traffic Congestion	
Delay per Auto Commuter	23 hours
Planning Time Index	22 minutes
Travel Time Index	22 minutes
Eligibility	**FASTTRAC!**
Eligible riders	2,267
ADA applications - results	
- % unconditional	100%
- % conditional - path of travel	0%
- % conditional - other	0%
- % denied	0%
Conditional eligibility operationalized?	n/a
Transit free-fare program	Fare free since 2020
Service Type and Model	
Call and control functions	In-house
Dedicated service operator	In-house
Non-dedicated service providers	Famiks
Dedicated vs non-dedicated	Unknown
Service areas zoned?	¾-mile from fixed routes
Extended service area	No
Door-to-door vs curb-to-curb	Origin to destination
Technology	
Sched/dispatch software	Routematch
In-vehicle equipment	Tablets, 2 way radio's
Direct dispatch to NDSPs	Unknown
Rider apps	www.ridefast.net
2021 Trips, Mi/Trip	
Total trips	60,135
- Registrant trips	Unknown
- PCA / companion trips	Unknown
- Ambulatory trips	Unknown
- WC trips (reg/xlarge)	Unknown
- Conditionally eligible trips	Unknown
- Feeder trips	9,631-vendor
Average Trip Length	Unknown

Fayetteville Area System of Transit (FAST) – FASTTRAC! (continued)

Fleet	FASTTRAC!
Total/peak pull-out	20 (18 cutaways, 2 minivans)
WAVs/Sedans	20 / 0
# veh shared w/ FRT or other Service	Unknown
Average operating speed	Unknown
Performance Metrics (2021)	
Service Efficiency	
Productivity – Combined – Standard	n/a
Productivity – Combined – Actual	Unknown
Productivity – Dedicated – Standard	n/a
Productivity – Dedicated – Actual	Unknown
Productivity – Non-Dedicated – Std	n/a
Productivity – Non-Dedicated – Act	Unknown
Cost Efficiency	
Operating Cost per Trip	Unknown
Operating Cost per RVH	Unknown
On-Time Performance	
Pickup – Standard	n/a
Pickup – Actual	Unknown
Dropoff – Standard	n/a
Dropoff – Actual	Unknown
On-Board Travel Time*	
Avg/Max Standards	n/a
% excessively long trips – Standard	n/a
% excessively long trips – Actual	Unknown
Missed Trip	
Missed Trip % – Standard	n/a
Missed Trip % – Actual	36 for year
Telephone Access	
Avg/Max Hold Times – Standard	n/a
Avg/Max Hold Times –Actual	26 seconds
Complaint Frequency Ratio	
Comp/10,000 trips – Standard	n/a
Comp/10,000 trips – Actual	Unknown
Preventive Accident Ratio	
PA/100,000 miles – Standard	n/a
PA/100,000 miles - Actual	Unknown
Miles Between Road Calls	
Standard	n/a
Actual	Unknown

3.11.4 Comparative Analysis

For the purpose of assessing how MITS has performed relative to similar services provided by the four peer transit agencies, comparative analyses were performed for ridership, unit costs, and various performance standards and metrics.

But first, it is important to compare how the 5 metropolitan areas compare with each other in terms of congestion, as this can have a significant impact on travel speeds and hence productivity, and if the scheduling software parameters are not properly tuned, on on-time performance as well.

Congestion Information

Researchers gathered information on congestion in the metropolitan areas for New Orleans along with the other cities of JP Transit's peer transit agencies. TTI annually publishes the Urban Mobility Report, which provides congestion data and associated measures for urbanized areas across the United States. The analysis uses crowdsourced data of travel on streets and highways from INRIX as well as highway inventory data from FHWA. The latest report is available for download (or its data as a visualization map) at https://mobility.tamu.edu/umr/. All five cities are examined according to data from the 2019 report.

Researchers looked at three measures from the Urban Mobility Report for comparison between the peer agencies' cities: Delay per Auto Commuter, Planning Time Index, and Travel Time Index. Delay per Auto Commuter is defined as the yearly delay for auto commuters who travel during the morning and afternoon peak periods (between 6 to 10 a.m. and 3 to 7 p.m.); the measure is calculated by hours as the extra travel time during the year dividing by the number of commuters in private vehicles. Planning Time Index measures reliability of travel for auto commuters based on a "typical" 20-minute trip; this index is translated to minutes for the total travel time planned for a "typical" trip for the commuter to avoid being late. Travel Time Index measures a ratio of peak-period travel time compared to travel time at free-flow conditions (defined as trips that would take 20 minutes to complete with no traffic on the road); this index is measured in a ratio and then translated to minutes needed to make this trip.

For 2019, the congestion measures for the five urban areas in the peer group are shown in **Error! R eference source not found.**

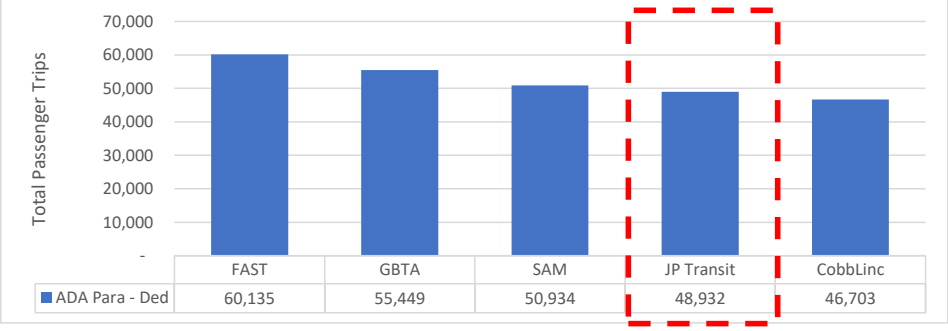
Table 4. Comparison of congestion metrics for peer group cities

2019	New Orleans	Atlanta	Bridgeport	Fayetteville	Sioux Falls
Delay per Auto Commuter (hours)	54	78	58	23	9
Planning Time Index (min.)	42	40	38	22	n/a
Travel Time Index (min.)	27	26	26	22	21

Total Passenger Trips

Error! Reference source not found. compares ADA paratransit ridership among the five agencies. C ompared to the peer group, MITS had the second lowest total passenger trips in 2021, while CobbLinc was had the lowest number of trips; both agencies were below 50,000 trips in 2021. FAST had the highest total passenger trips among the set of peers at 60,135. As noted in the tables, all data from the peer group reflects dedicated service for ADA complementary paratransit. The remaining tables after total passenger trips do not include data from FAST, as additional information on performance was not available.

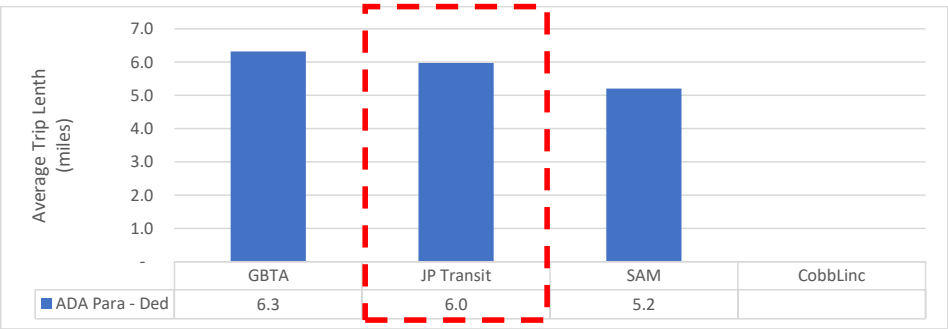
Figure 43. Comparison of ADA ridership (2021)



Average Trip Length

Figure 44 compares the average trip length among the four agencies' ADA paratransit services. At 6.0 miles per trip MITS had an average trip length with range of the peer group in 2021; even with comparable trip lengths, MITS has the lowest productivity of the three agencies. (See Figure 45.)

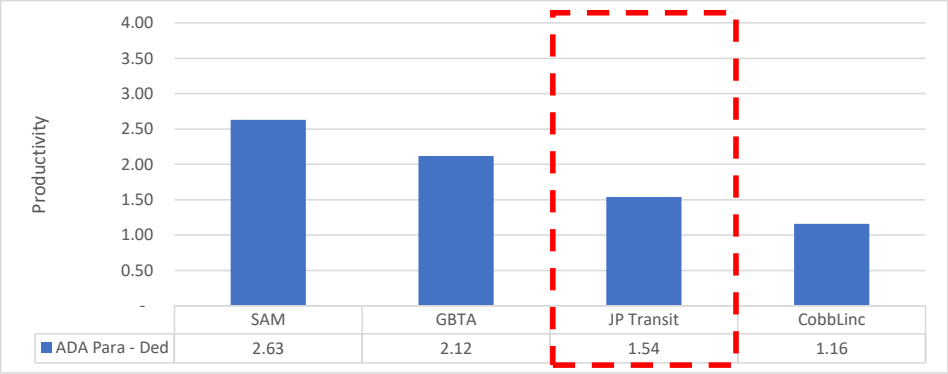
Figure 44. Comparison of average trip length (2021)



Service Productivity

Error! Reference source not found. compares service productivity among the five agencies' ADA p aratransit services, with productivity defined as the number of passenger trips per RVH. SAM had the highest service productivity (passengers per revenue hour) among the peer group in 2021 at 2.63, while GBTA had a productivity at 2.12. MITS was lower in productivity at 1.54, while CobbLinc had the lowest productivity at 1.16 in productivity during the same period. Two of the peers have productivity goals/standards. GBTA stated they do not currently have a formal target, but prior to the pandemic used a target of 2.7.

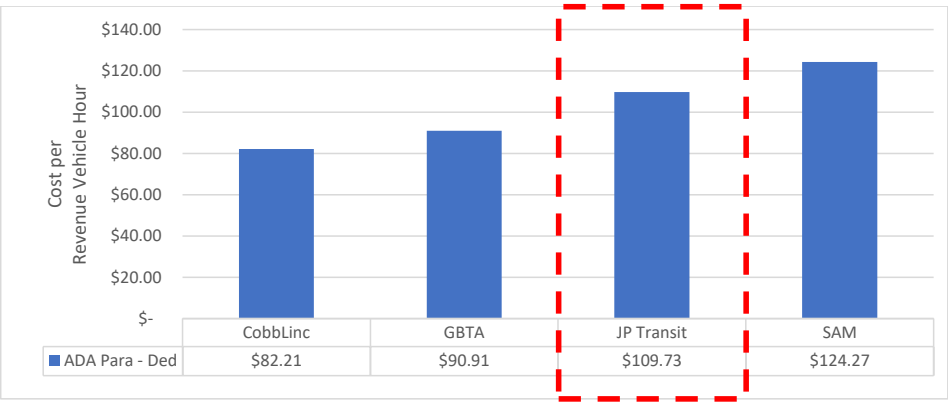
Figure 45. Comparison of service productivity (2021)



Operating Cost per Revenue Vehicle Hour

Error! Reference source not found. compares operating costs per revenue vehicle hour. At $109.73, M ITS had the second most expensive operating cost per RVH among the peer group, but 1/3 higher than CobbLinc.

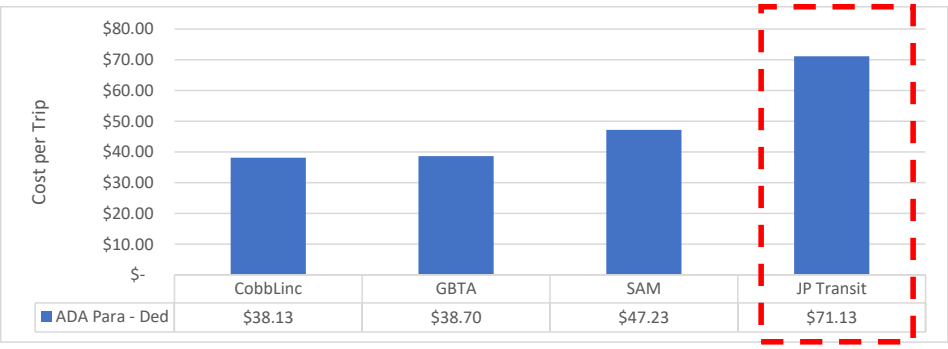
Figure 46. Comparison of operating cost per RVH (2021)



Operating Cost per Passenger Trip

Error! Reference source not found. compares operating costs per passenger trip among the five agencies' ADA paratransit services. TTI measured operating cost metrics based on the total operational costs for demand response service in JP Transit's 2021 NTD forms. Using that data, the operating cost per trip in 2021 for MITS was $71.13, highest among the four services, and nearly twice as expensive as CobbLinc and GBTA, which reported per trip operating costs around $38 dollars.

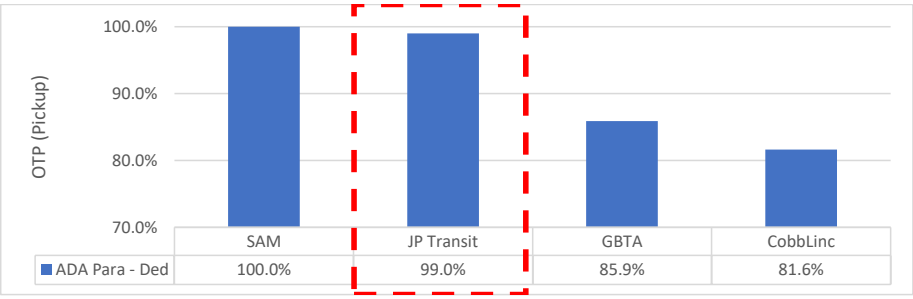
Figure 47. Comparison of operating cost per trip (2021)



Pick-up On-Time Performance and Standards

Error! Reference source not found. compares pick-up on-time performance (OTP) percentages among t he five agencies' ADA paratransit services. JP Transit and SAM reported very high on-time performance (OTP) for ADA paratransit service pickups, at 99 and 100 percent, respectively. CobbLinc reported the lowest OTP for trip pickups of the peer group at 81.6 percent. Curiously, none of the agencies in the peer group reported have an OTP standard. Most of the peers do not track on time performance for drop-offs. CobbLinc reported a 92.4% on-time performance for drop-offs during 2021.

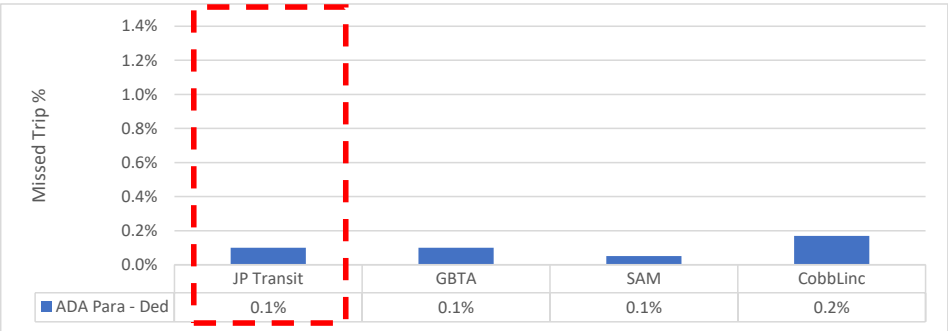
Figure 48. Comparison of on-time performance at pickup (2021)



Missed Trip Percentage

Error! Reference source not found. compares missed trip percentages for the five agencies, noting all five a gencies reported missed trip percentages below the commonly used "not to exceed" standard 0.5%. MITS' missed trip percentage was comparable to agency peers, all ranging between 0.1 and 0.2 percent. GBTA reported a standard of 0 missed trips, while none of the other agencies stated having standards for missed trip percentage.

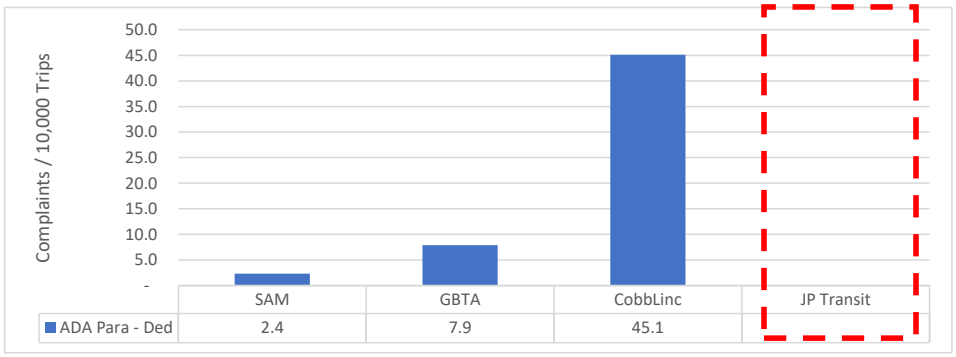
Figure 49. Comparison of missed trip percentage (2021)



Complaint Frequency Ratio (CFR)

Error! Reference source not found. compares for the four peers the number of complaints per 10,000 t rips. Transdev did not supply any data on complaints, so MITS' CFR cannot be calculated. Among the peers, SAM reported the lowest customer complaints ratio per 10,000 trips at 2.4; GBTA had a similarly low complaints ratio at 7.9, while CobbLinc was higher at 45.1 complaints per 10,000 trips. No agencies reported having a standard for CFR, although GBTA indicated they had a target of 0 complaints.

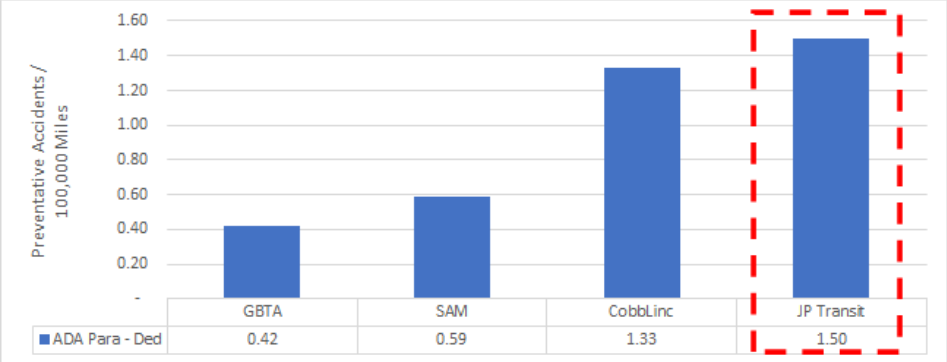
Figure 50. Comparison of complaint frequency ratio (2021)


Complaints / 10,000 Trips
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
-
SAM
GBTA
CobbLinc
JP Transit
ADA Para - Ded
2.4
7.9
45.1

Accident Frequency Ratio (AFR)

The four agencies' preventable accident frequency ratio, as measured by the number of preventative accidents per 100,000 miles, is presented in Figure 51 . MITS had the highest AFR (at 1.5) among the four agencies, noting that two of the agencies reported an AFR well below the industry not-to-exceed AFR standard of 1.0. None of the other agencies in the peer group reported an AFR target or standard.

Figure 51. Comparison of accident frequency ratio (2021)



3.12 Focus Areas

3.12.1 Eligibility Function Assessment

As mentioned in Section 3.1, no eligibility data was not provided to TTI; hence, a deep-dive analysis of the eligibility determination function was not possible. We did hear from the Operations Manager that the turn-around time for applications was approximately a week, which is excellent.

Also as discussed in Section 3.1, vesting the eligibility determination function with the operations/management contractor (Transdev) presents an inherent conflict of interest. The more applicants that Transdev determines to be eligible, the more trips. And the more trips, the more hours of service are needed. And the more hours of service that are provided, the more Transdev gets paid.

TTI suggests that a more objective way to handle this function is to perform eligibility determination with Jefferson Parish staff, or for Jefferson Parish to retain a third-party firm, such as MTM, that specializes in ADA paratransit determination/certification.

3.12.2 Call Center Assessment

The staff in the MITS call center all perform reservations, scheduling and dispatching. When fully staffed, there are 3 staff during the peak hours with one working the radio (i.e., communicating with drivers) and performing proactive dispatching and the other two handling the phone calls (for bookings, WMR/ETA calls, etc.) During our visit there were only two staff who were performing all of the functions, with the Operations Manager performing proactive dispatching.

The biggest shortcoming of the booking process, alleged by all of the riders participating in the focus group, is the practice of transportation demand management, which is a good practice when resources are limited but non-compliant with the ADA. For ADA paratransit services, riders must be able to call the day before to arrange for a trip. Based on the rider input, riders are being dissuaded from doing this by the reservation agent; instead the riders stated that reservation agents perpetually advise riders to not even bother calling any later than 7 days in advance right when the reservation lines open up in the morning; otherwise, they will probably not get a ride when they want it, if at all. TTI posed this to Transdev management to confirm this practice, but we have yet to hear back. To us, this strongly suggests a capacity constraint, which is further suggested by the run structure vs. demand profiles in Section 2.

Another major shortcoming is how trips requested by a drop-off time or based on a state appointment are processed. While Trapeze does have the capability to suggest solutions for a pick-up time based on a requested drop-off time or stated appointment, this feature is not being used by MITS. For those riders who do provide an appointment time or a requested drop-off time, the MITS procedure is to input a pick-up time that is 30 to 60 minutes beforehand (depending on distance) and then proceed as above. In cases where trips need to cross the Mississippi River, an earlier pick-up time is commonly entered. Moreover, appointment times are not designated in any way (for example, in the notes that the dispatchers and driver see). So, if there are unforeseen delays, neither has an understanding as to when the rider needs to be at his/her appointment, unless the driver happens to ask the rider. In addition to using the Trapeze function mentioned above, stated appointment times should be entered in the trip notes field for the driver.

Yet another shortcoming is the practice for establishing a confirmed +/- 15-minute pick-up window. In short, and by directive of the Operations Manager, the quoted window is always based on the requested (or negotiated) pick-up time. But by doing this, it puts the rider and driver on different footing, with different expectations. If a suggested solution falls within 15 minutes (plus or minus) of the requested pick-up time, the reservation agent schedules the trip onto that run, with the agent giving the pick-up window (+/- 15 minutes based around the original requested pick-up time and not based on the estimated pick-up time. This is a highly unusual practice with a system like Trapeze and results in limiting the flexibility to serve the trip on time. For example, if the system-scheduled pick-up time for an 8:45 requested pick-up is 8:55, the pick-up window quoted to the rider is 8:30 to 9:00 (and not 8:40 to 9:10), which leaves only a bumper of 5 minutes after the estimated pick-up time to be on-time. Also, from the rider perspective, they may not realize that the ETA is actually 8:55 and knowing that (versus the 8:30-9:00 pick-up window they are given), may result in the particular scheduling of that trip being unacceptable, especially if they are trying to get to a destination at a certain time.

For return trips, reservation agents enter a return pick-up time for almost all trips but may schedule "will-calls" for certain riders making trips to medical appointments based on past experience. Transdev also has a no-strand policy and will serve re-emerging no-shows within an hour of receiving the call, although meeting this response time cannot always be guaranteed.

Upon occasion, Trapeze will not provide any solution even after trip negotiation. If called in on the day before the trip date, the trip will be denied, noting that there a very few such instances. According to our analysis, there have been only 117 trip requests in the first 6 months of 2022. However, TTI believes this low number of denials is a direct result of the (non-compliant) demand management practice above. Moreover, as discussed in Section 2, there were over 1,000 instances (or 3.8% of the total trips during this period, where the accepted negotiated trip time exceeded the 60-minute trip negotiation window. Per FTA guidance, these also need to be tagged as denials, and are not.

All of these practices need to be fixed immediately.

Note too that all of the scheduling is mainly based on the real time scheduling performed by the reservation agents, with the Operations Manager scheduling unassigned trips and making next-day changes as needed. There is no batch scheduling. Not batching with trips being taken up to 7 days in advance and where the pick-up window (and the scheduled pick-up time) is not altered is somewhat unusual when an agency has a system like Trapeze, where batch scheduling can be highly tailored. Most transit agencies use Trapeze to do both real-time scheduling and batch scheduling.

The problem arises when a system-generated solution for a trip entered 7 days before the trip date is suboptimal by the day before the trip date as a result of other trips scheduled in the interim; this is the reason for automated batching. Transdev local staff have indicated they are leery of batching scheduling because they are not convinced that the scheduling parameters in Trapeze are tuned to reflect the desired balance between service quality (on-time performance and on-board travel time) and service/cost efficiency. According to Transdev's IT Manager, these parameters are set and controlled by Transdev corporate staff, and he is uncertain whether or not they have ever been tuned to reflect that desired balance or the general characteristics of Jefferson Parish and bridges. This is the underlying reason why batch scheduling is not used at MITS. But instead of ignoring this function, the parameters should be tuned so that batch scheduling can be used to achieve the desired balance between service efficiency and service quality.

There are also two shortcomings that pertain to subscription trip policies and practices. MITS defines subscription trips as trips taking place at least 3x per week. With subscription trips currently reflecting around 40% of the trips, per Transdev's Operations Manager, there is no reason why the definition couldn't be modified to a minimum of 2 or even 1 per week, as long as such a modification would not create a capacity constraint. With a capacity constraint existing, such a policy should not be revised, but as recommendations are implemented to resolve the capacity constraints, JP Transit should consider such a revision.

In the meantime, there appears to be no regular progress to take a fresh look at the scheduling of these subscription trips in light of changes that occur from time to time. Regular (at least once a month) revisiting of how the subscription trips are scheduled, to see if there is a more efficient solution given changes in the subscription trips that happen from time to time, is a standard practice in the industry, but is being done only "organically" at MITS. At 40% of the total trips, the scheduling of the subscription trips form the backbone of the schedule. If the scheduling of these trips is suboptimal, so too will be the scheduling of the entire set of trips, especially if no batch-scheduling optimization processes are in play.

Subscription trips represent approximately 40% of the trips delivered.

Dispatching duties include window dispatching, re-assigning trips between runs, especially in the case of call-out drivers that cannot be replaced or in the case of late-running vehicles, processing no-shows, assigning re-emerging no-shows to runs, monitoring the progress of runs, handling emergencies, assisting with driver navigation needs, and handling calls from reservation agents needing more information for WMR calls.

The same staff that performs reservations and scheduling also performs dispatching, especially with only two staff available per shift (The MITS staff is down one person). As mentioned above, there is the full complement of three staff, one person is designated as the dispatcher, with the other two teaming up on handling calls.

But with only two staff available, and both performing all functions, it can especially be challenging during certain times of the day to focus on all functions equally. For example, from 8:00 to 9:00 am on most

weekdays, there is a constant barrage of calls coming in, which results in shifting the focus away from dispatching during this critical period. Still, the number of vehicles (15) is such that the vehicle to dispatcher ratio is well within acceptable limits.

But when there isn't a designated dispatcher, monitoring the vehicles progress can be a free-for-all, and so close communication between dispatching staff is essential, although, in contrast to LIFT, there doesn't seem to be as many problems with dispatchers knowing the real-time location of all vehicles because all the tablets are generally functioning properly….when they indeed consult the map. In addition, the radios are generally functioning properly as well.

Trapeze provides alerts on the dispatching screen that highlights later-running vehicles; they are shown in red. On the positive side, MITS dispatcher appeared to be quite adept at determining which alerts were real and needed fixing, and which were not.

The procedure for a no-show procedure is for the driver to wait 5 minutes, which starts at the beginning of the pick-up window should the vehicle have arrived early, and then check with the dispatcher for directions. Unlike the RTA, which tries to call customers selectively, MITS staff makes an effort to call all no-showing customers. In addition, the staff reported that they almost always make an imminent-arrival call to riders who live in apartments and cannot see the vehicle arrive. Both of these are very good practices.

In observing the dispatching staff, we did find it a bit unusual that the dispatching staff did not routinely consult the map in Trapeze (in response to a no-show request from a driver) to determine whether the vehicle was in the right place. One dispatcher reported that the only reason that they know that there was a no-show was because the driver said the rider was not present (excluding the possibility that the driver could be in the wrong place).

Dispatching staff was unaware of the missed trip disposition for a trip not completed and was unaware of the primary difference between a missed trip and a no-show – that being whether or not a vehicle arrives within the pick-up window or not. (See the full definition of a missed trip in Section 10.)

In addition, tuning the Trapeze parameters to Jefferson Parish, as discussed earlier, will not only help with better solutions for the dispatchers as well as enable a path toward (service-day) continuous dynamic optimization.

The dispatching staff is also called into action to move trips from the run associated with the downed vehicle to another run (see Section 4.5.6 below), or if there is a driver call-out. Indeed, during our visit, there were two driver callouts, which required the dispatching staff to re-assign roughly 22 trips to other runs as the extra-board at MITS is very lean. Thus, on the day of the visit and when all of the (back-up) COA vehicles were in use, only 13 vehicle, and not 15 , were in service. The resulting assignment of trips to already well-scheduled runs – even the best solution can be somewhat disruptive – sometimes will bring out the ire in drivers when they are routed "all over the place" in an order of events that, to the driver, defies logic, but several other drivers understood the problems that arise from driver callouts and downed vehicles.

Lastly, during our observations, there were several instances where dispatchers were "on top of things. For example:

- We witnessed a dispatcher, when not inundated with calls and driver requests, checking progress of the vehicles (to see if any were running late) and the list of unassigned trips (to see if any holes had opened up as a result of cancellation. There was one instance where after a cancellation, the dispatcher immediately re-assigned a trip from a swamped run that was running a bit behind to the new "hole."
- The dispatching staff also seemed to adapt well to customer "curve balls" such as an instance when a customer showed up with an "unaccounted-for" companion.
- And when a customer was trying to skirt the reservations queue by calling the dispatch line instead to book a trip, the dispatcher correctly instructed the caller to call back on the reservations line.

There also seemed to be a generally good rapport and working relationship between the drivers and the dispatching staff, which is not always the case in paratransit. For example, there was an instance where a driver recommended a re-ordering of stops as the driver recognized that he would be driving right by a drop-off location and noted that there were no other issues that would preclude this. The dispatcher checked to see whether this could result in violations -- by changing the order on her dispatch screen – and approved the driver's suggestion.

3.12.3 Software/Technology Assessment

Trapeze's PASS software is the primary software used to support MITS. Its capabilities support rider registration, reservations, scheduling, dispatching, and reporting. At the heart of the system is a set of scheduling algorithms and configurable scheduling parameters that can be used to tailor how Trapeze schedules trips. The scheduling and dispatching functions use an underlying GIS map.

MITS reservation agents use Trapeze to enter trip requests and schedule them onto specific runs operating on the requested trip date, based on solutions that Trapeze suggests (real-time scheduling). If there is no solution for a trip, schedulers later attempt schedule these unassigned trips onto runs. While most transit agencies also use Trapeze to subsequently perform various types of batch scheduling to further optimize a schedule, MITS staff do not.

On the day of service, dispatchers use Trapeze to monitor the progress of the MITS runs, to re-assign trips as needed (using the same capabilities as available to the schedulers), and process no-shows and missed trips. Dispatcher-driver communications are performed with Trapeze in combination with driver tablets in each vehicle.

Trapeze also serves as the primary source for reporting, providing a full array of standard reports that meet Jefferson Parish's and Transdev's needs for performance monitoring and NTD reporting.

Our assessment of how the MITS staff uses Trapeze suggests that it is reasonable for the MITS staff continue using Trapeze as long as a particular emphasis is placed on better utilization of existing functionality by undertaking the following actions:

- Review and adjust scheduling parameters, including system speeds by time of day, so that Trapeze solutions are accepted by schedulers and can be realistically driven by operators.

- Implement new Schedule Job Agent batch jobs to automatically optimize future day schedules and, critically, create new jobs to make same-day adjustments to routes based on changes which occur on the day of service.

- With the success and experience of future day optimization, and the successful transition to tablets, implement a new Schedule Job Agent for same-day optimization.

- Improve the utilization of Viewpoint as a real-time dispatch tool as well as a resource for exception-based data management (i.e., trip reconciliation).

TTI also suggests The Jefferson Parish consider acquiring PASS-WEB G3 so that customers can book, review, and cancel trips without having to contact the MITS staff by phone.

If schedulers and dispatchers are challenged by new developments and street name changes, Jefferson Parish may wish to long into updating the base map in Trapeze. Certainly, the first time the map is updated there is more work to be done to ensure as much existing functionality is retained and if necessary rebuilt, but subsequent upgrades can be done on a regular maintenance schedule with minimal additional adjustments. The benefits of automated, accurate geocoding of PASS trips will accrue to both staff and MITS riders.

Jefferson Parish may also wish to consider moving Trapeze to the cloud. As announced at the Trapeze Think Transit conference held in Fort Worth in March 2022, this would require the Jefferson Parish upgrade the PASS software to V21. Trapeze has said that the timeline for moving all clients to the cloud is still to be determined, but it is the study team's estimate this transition will occur over the next 5-10 years. This may or may not be the long-term vision for Jefferson Parish, however, there are a number of benefits of upgrading to V21 as soon as is practical, including taking advantage of all the latest features (especially a much more robust and MUCH better-designed dispatching function) of the products as well as ensuring Jefferson Parish is on a fully supported version of the software.

3.12.4 Complaint Management Assessment

TTI has staff never encountered a paratransit system anywhere in the US with as few complaints as this, and especially one that would appear to be capacity constrained.

It would appear from the Jefferson Parish Transit website that there is a way to email a complaint (or provide feedback) for MITS service, by calling 504-357-7433 or emailing jefftransitinfo@solutient.com. (https://jptransit.org/contact/). However, the way this page is designed, it may suggest to some that this contact information is not for paratransit-related feedback. This should be clarified on this page and under the "paratransit" tab, where riders may go first. This may be one reason why there are so few complaints.

The extremely low level of complaints could also be traced to (1) rider complacency with the existing level of MITS' service quality, (2) past rider complaints not materializing into improved service, and/or (3) fear of retribution. Riders in the MITS focused group called-out the latter factor as a reason they did not complain.

Having Jefferson Parish Department of Transportation personnel or perhaps Solutient personnel staff the complaint line/email address and clarifying this on the website might be a better solution.

3.12.5 Contract Assessment

A copy of Amendment 6 of the Jefferson Parish-Transdev contract, adopted September 1, 2020, was provided to TTI; the base contract and the other amendments were not. And so while a complete review of the base contract and preceding amendments could not be performed, Amendment 6 does allude to some but not all of the provisions of the base contract. Our assessment of the contract, as it pertains to MITS, is thus based on Amendment 6 only.

Amendment 6 extended the term of the agreement by three years and provided for revised pricing, additional services, performance standards and penalties. From Amendment 6, it can be determined that:

- The base contract, dated May 1, 2017, but commencing on April 1, 2017, and would run for four years, expiring on the fourth anniversary, April 1,2021. It also provides for two additional three-year extensions.
- Amendment 1, dated October 25, 2017, provided for the temporary subleasing of vehicles foe MITS and the addition of a fuel escalation clause
- Amendment 2, dated March 15, 2018, provided for a $51.76 rate per revenue vehicle hour (RVH) for a subcontractor between September 1, 2017 and September 1, 2018. It is unclear from this reference in Amendment 6 whether this was specific to fixed route service, MITS or either.
- Amendment 3, dated October 18, 2018, adjusted the rate for subcontractor services.
- Amendment 4, dated October 17, 2019, provides for a 6-month pilot program specific to the E4 Route, and so this would seem to be incidental to MITS.
- Amendment 5, dated July 20, 2020, extended the pilot program

The following provisions were included in Amendment 6:

Contract term. Section 3 of Amendment 6 i extends the contract by three years, from April 1, 2021 until April 1, 2024.

Not to exceed annual payments. Section 4 of Amendment 6 increased the annual not-to-exceed amount for all services (fixed-route and paratransit) from $15m per year (during the first 4 years of the contract) to $17.14m per year for the 3-year (April 1, 2021 – April 1, 2024) extension, a 14% increase over the base contract. Amendment 6 also provided for a not-to-exceed amount for senior transportation services, with the contract cap increasing from $240,000 to $282,240 over the same time periods.

Vehicle cleaning requirements. Section 5 of Amendment 6 provides detailed requirements for vehicle cleaning and disinfecting, noting that there appears to be no penalty associated with not meeting these requirements.

Miles between road call standard and related penalties. Section 6 of Amendment 6 provides requirements for road calls, with a minimum standard of 30,000 miles between road calls (MBRC) for MITS. The associated penalty for not meeting this standard is $1,000 for not meeting this standard in a given month. TTI was not provided with any MBRC data, and so we do not know how often this penalty may have been exercised, if at all.

Timing of replacing key staff and related penalties. Section 7 of Amendment 6 provides for a time-period for replacing the project Manager, Maintenance Manager and Paratransit Director/Manager if any of

these individuals depart or are relieved of their duties, with an associated penalty of $20,000 per month if the position(s) remain open after 2 months.

Driver drug and alcohol testing penalties. Testing Section 8 of Amendment 6 provides for a penalty of $500 per incident for any violation of Transdev's driver drug and alcohol policy.

Complaint handling, standards and related penalties. Section 9 of Amendment 6 requires Transdev to receive all transit information requests and complaints with staff from a call center operating on weekdays from 6am to 6pm and on Saturday from 7am to 3pm. The provision requires Transdev to track complaints and reports via Salesforce-LISTEN or a similar customer service tracking software, and to forward completed complaint forms to Jefferson Parish within seven days of receiving the complaint. (The provision also states that any complaint received by Jefferson Parish will be routed to Transdev within 24 hours). Transdev is also required to investigate the report or complaint within forty-eight (48) hours of its receipt and to re-contact the reporting party within five working days regarding the results. The provision also requires Transdev to provide a complaint or customer service report for recording all complaints or reports received on services. There does not appear to be a penalty prescribed for not meeting these timelines. The provision does however set a standard set of 10 complaints per 100,000 trips, and a penalty of $100 for each complaint over that threshold. While it may be assumed that this is tracked per month, with penalties assessed on a monthly basis, this is not specified. The other shortcoming of this provision is that it would appear to apply to all services (fixed route and paratransit). In our industry, complaint frequency rates are very different for fixed route and paratransit services, i.e., complaints tend to be more frequent on paratransit services. As noted previously in the LIFT section of this report, the complaint frequency ratio (CFR) for ADA paratransit services, is generally measured by the number of complaints per 10,000 passenger trips. A commonly used CFR score for ADA paratransit is: Excellent (under 10); Good (10-19); Acceptable (20-29) and Poor (30 and above). Having different CFRs for fixed route vs. paratransit is a common practice and does not conflate the two. Jefferson Parish is advised to keep the thresholds and associated penalties in the contract, as well as the turnaround time for investigating the complaint, but to remove complaint intake, responding to the customer, and complaint tracking from Transdev's responsibilities, as there is a built-in incentive not to record all complaints, noting that in interviews with Transdev staff, it became clear that not all complaints are being recorded.

Call-taking standards and related penalties. Section 9 also provides standards for call-taking standards in general for Transdev's call center. They include (1) an abandonment rate of not more than 9% per day (for calls where the hold time is at least 24 seconds in duration), and (2) an average call hold-time of no more than 2 minutes. The associated penalty is $100 per day per standard for days when a standard is not attained. The 2 minute standard for a not-to exceed average hold time is a fairly commonplace standard; however, it does not bring to light patterns of call center capacity constraints as discussed earlier in this report. One additional contractual provision that could be added to help with this is to set a standard of maximum hold time (e.g., 5 minutes) and to assess a similar penalty for any call that exceeds this standard.

Incident notification. Section 9 also specifies incidents that would trigger an immediate phone call to the Director of Jefferson Parish's Department of Transit Administration.

Revenue handling and related exposure. Section 10 provides for the handling of revenue (passenger fares, sale of tokens, monthly and day passes, proceeds from sponsoring agreements, etc.), noting that all such revenue is considered to the property of Jefferson Parish, and that Transdev assumes the risk of lost revenue up to $25,000 per event.

On-time performance and related penalties. Section 11 adds a new provision on-time performance standard for MITS of not less than 88%, noting that most ADA paratransit services have OTP standards of 90% or above, and also revisiting the previous discussion about the on-time performance of trips requested by drop-off time or appointment time is not being tracked. Section 11 also adds that failure to achieve the 88% standard in any given month will result in a $1,000 penalty. .

Maximum on-board travel time standard and related penalties. Section 11 also specifies a standard for a not-to-exceed on-board travel time of 75 minutes, with a penalty of $50 for each event. It is not evident as to whether or not this is being tracked – or tracked correctly, with penalties assessed.

Missed trip penalty. Section 11 also establishes a penalty of $200 for each missed trip but does not define what a missed trip is. As discussed previously in this report, a missed trip is an event where (1) the vehicle never arrives; (2) the vehicle arrives early and departs before the pick-up window begins; (3) the vehicle arrives on-time or late but departs before the 5-minute wait time is over; (4) a driver fails to carry out specific instructions included with the reservation (e.g., a specific building entrance, door-to-door assistance, honk on arrival, etc.), which results in the rider missing their ride; or (5) the vehicle arrives after the pick-up window and the customer does not appear or cancels-at-door. Such an event is the fault of the service delivery operator, and not the rider. Missed trips are not no-shows and need to be tracked separately as they are one of five metrics that point to the possibility of a capacity constraint, which is a compliance issue. When MITS staff was queried about why there were so few missed trips (2 missed trips in February 2017, and 1 missed trip in January 2020, and none in other months), it was clear that the staff did not have a grasp of all of these definitions. At the same time, missed trips are not always avoidable, a common standard is 0.5%. A suggestion for future contracts or contract amendments is to establish this as a standard and continue to assess the above penalty for all trips that exceed this standard, but with the requirement that missed trips be tracked correctly.

Autonomous Vehicles. Section 12 requires Transdev to identify solutions for using autonomous vehicles (AVs) within the first six month of the contract.

Payment Schedule. Transdev invoices Jefferson Parish monthly. Section 14 (there was no Section 13) provides for the RVH-based payment schedule for MITS. During the first four years of the base agreement, the rates of payment for MITS service were $82.18 per RVH, $84.30 per RVH, $87.70, and $90.93 per RVH, respectively. For each year, the contract provided for a not to exceed number of 36,400 RVHs and should the revenue hours provided increase by more than ten percent (10%), Jefferson Parish and Transdev could renegotiate the rate.

For the three year extension, the RVH rate invoiced each month was changed to a sliding scale of rates based on the *estimated* number of RVHs that will be provided in the course of that year (as determined by the number of RVHs operated that month. This estimation methodology used involves (1) multiply the number of RVHs on an average weekday during the month x 251 days; (2) multiplying the number of RVHs on an average Saturday during the month x 52 days; (3) multiplying the number of RVHs on an average Saturday during the month x 62 days; and (4) totaling the three figures to arrive at a "calculated annual RVHs." The contract then has a sliding scale of hourly rates that vary based on the calculated annual RVHs, grouped into six groupings with a different hourly rate for each grouping. The lower the number of calculated RVHs, the higher the rate. Jefferson Parish then pays Transdev that hourly rate times the RVHs for the month in question. There is a different sliding scale of rates for the same grouping of hours for each year of the contract extension, as shown in Table 5 on the following page.

Table 5. MITS Sliding Scale of Contractual Rates

FIFTH YEAR OF THE AGREEMENT		
Paratransit Services and Senior Center Transportation Services		
Computed Annual Vehicle Revenue Hours	Rate Per Vehicle Revenue Hour	Monthly Fee
26,000.00 - 28,999.99	$89.51	$55,989.50
29,000.00 – 31,999.99	$86.40	$55,989.50
32,000.00 – 34,999.99	$83.62	$55,989.50
35,000.00 – 37,999.99	$81.32	$55,989.50
38,000.00 – 40,999.99	$79.05	$55,989.50
41,000.00	$77.30	$55,989.50

SIXTH YEAR OF THE AGREEMENT		
Paratransit Services and Senior Center Transportation Services		
Computed Annual Vehicle Revenue Hours	Rate Per Vehicle Revenue Hour	Monthly Fee
26,000.00 - 28,999.99	$91.95	$54,365.48
29,000.00 – 31,999.99	$88.76	$54,365.48
32,000.00 – 34,999.99	$85.90	$54,365.48
35,000.00 – 37,999.99	$83.54	$54,365.48
38,000.00 – 40,999.99	$81.20	$54,365.48
41,000.00	$79.41	$54,365.48

SEVENTH YEAR OF THE AGREEMENT		
Paratransit Services and Senior Center Transportation Services		
Computed Annual Vehicle Revenue Hours	Rate Per Vehicle Revenue Hour	Monthly Fee
26,000.00 - 28,999.99	$94.08	$54,852.47
29,000.00 – 31,999.99	$90.81	$54,852.47
32,000.00 – 34,999.99	$87.89	$54,852.47
35,000.00 – 37,999.99	$85.47	$54,852.47
38,000.00 – 40,999.99	$83.09	$54,852.47
41,000.00	$81.25	$54,852.47

Table 11 also shows that, in addition to the rates charged per RVH, Transdev also charges a fixed monthly fee that averages around $55,000 for the three period. Such a rate structure, with a fixed monthly cost not affected by the amount of service provided and a rate per RVH covering variable costs is fairly common in the industry.

Productivity standard. Most paratransit contracts that are paid solely or primarily based on an RVH rate have performance targets – and incentives and penalties/liquidated damages -- tied to productivity and to on-time performance, to name only a few metrics. Together, these give the contractor and idea of the "sweet spot" balance of service quality and service/cost efficiency desired by the contracting transit agency. While the Amendment 6 does provide for an OTP standard of 88% and a penalty for not attaining this OTP standard (see above), we did not see a counterpart standard for productivity, although we were told in an interview that a standard of 1.8 is in place as a productivity standard. Still, if this does contractually exist, we also did not see an associated penalty for not achieving this standard. With a penalties associated with OTP and not for achieving a certain productivity, Transdev is incentivized toward only OTP. The number of RVHs comes into play only in ensuring that the not-to exceed contractual amount of $17.14m is not breached in any given year (see above.)

Subcontractor Rates. Section 14 also acknowledged that the previous annual rates for subcontracted paratransit service as follows:

- $53.10 per vehicle revenue hour from September 1, 2018 through March 31, 2019
- $55.24 per vehicle revenue hour from April 1, 2019 through March 31, 2020
- $57.27 per vehicle revenue hour from April 1, 2020 through March 31, 2021

In Amendment 6, the $57.27 rate per RVH was also set for the three contract extension years. Not too that after a two-year hiatus, Transdev has once again resumed using a subcontractor to provide MITS trips, as of August 2022. Note though that this is rate is based on RVHs, implying that what is being purchased is not non-dedicated service but dedicated service, with the taxi subcontractor operating a dedicated run onto which trips are assigned. Many transit agencies or contractors that use taxi contractors utilize taxis and other NDSPs on a non-dedicated basis, with payment based on the metered (or a negotiated distance-based) rate, or where trips assigned to the taxi are relatively homogenous in character, based on a per trip rate. This alleviates not paying for service during slack time. It also provides for utilizing taxis when they are most needed, i.e., during the peak, or replacing unproductive runs in low-demand areas or at low-demand times. While taxi contractors may sometime require a minimum number of trips per day, and based on interviews with Transdev staff, this appears to be the case, such a requirements should not be interpreted as a call for dedicated service.

Senior center transportation service. Senior center transportation service is also paid at a rate per RVH. For the first four years of the contract extension, this rates were $82.18 per RVH, $84.30 per RVH, $87.70 per RVH, and $90.93 per RVH, all based on 3,000 annual RVHs, and with a similar provision for rate re-negotiation if RVHs increase more than 10%. For the extension period, this was changed to utilizing the same rate that was used to invoice for paratransit service. (see above.)

Other missing provisions related to compliance . As discussed earlier in this report, the FTA prohibits capacity constraints on ADA paratransit services and there are five key metrics where patterns of those key metrics may indicate a capacity constraint. The five include: denials, late trips, missed trips, excessively long trips, and excessively long average/maximum hold time, some of which are mentioned above. Each needs to be properly defined, per the discussion in Section 10, and tracked correctly. And there needs to be a provision for the contractor to develop methodologies to periodically (e.g., once a quarter) identify, report, and patterns of these five metrics which may suggest capacity constraints. The contractor should also be required to identify such patterns and suspected capacity constraints to Jefferson Parish and to develop solutions to remedy the capacity constraints.

3.13. Rider Focus Groups

3.13.1 The Rider Focus Group Participants

A total of five MITS riders participated in focus group activities, noting that two riders were also registered with LIFT. All lived on the Eastbank. All of the riders have been customers of MITS for between 2 and 7 years, with ridership ranging between a few trips a month to up to 10 trips. None had subscription trips.

3.13.2 Appreciation for MITS

All of the riders gave high marks to the friendly drivers are friendly, one riders stated that the longer you ride, the more a relationship is formed. There seemed to be a unanimous fondness for specific booking agents and a specific dispatcher

The group also was appreciative of the on-time pick-ups but for going trips only.

They also mentioned the reasonable of the fare, vehicle cleanliness, and safety as attributes of the service.

The group of riders also were appreciative of the ease and turnaround of the eligibility process, with one rider mentioning they got a response (unconditional eligibility) within a week, along with a ride guide, an ID card, and everything they needed to use the service.

3.13.3 Comments about Booking and Scheduling

The focus group participants were less happy with the booking and scheduling process, mentioning:

- Hold times being consistently between 15 – 30 minutes over the past year and at any time of the day.
- The "guidance" from the reservation agents who (according to the riders) stating that riders must call at 8:00 seven days in advance to get a ride at their desired time, and even then, they may not get one. Reservations agents instruct riders to call 7 days in advance for this reason.
- This "guidance" had far-reaching impacts for some of the riders. One rider mentioned a case where her doctor's office cancelled an appointment within the day of the appointment and sought to re-schedule the appointment. The rider turned down offered time slots within the week for fear she couldn't get a ride on MITS.
- The inability to make medical appointments on the weekend because the MITS reservation agents typically offer a three-hour time slot (but no definitive time) while also mentioning the unlikelihood that MITS would be able to get them home for the doctors. (The solution for the return trip for this rider was a $30 Uber trip.) This happened about 8 times within the past year.
- Varying experience with denials: one rider estimated 8 over the last year; others had none. However, they also stated that if they have been "conditioned" to call 7 days in advance to minimize denials and guessed that if they called for next day service, there would be a good chance that each request would be denied
- Two occasions when a booked trip was not booked correctly.

3.13.4 Comments about the Service Day Experience

The rider focus group participants all were complementary and grateful about the on-time performance for their going trips. One rider mentioned that if a driver is ahead of schedule, they will sometimes get a call from the dispatcher that there will be an early arrival, adding that the imminent arrival calls are inconsistent.

Will-call return trips from medical appointments can take anywhere between 15 minutes to one hour.

One rider wished the 5-minute driver wait time could be expanded to give them more time to get ready.

Another rider did not realize that he could pay a cash fare; he thought that riders had to use ride tickets, noting that the $90 book was an expensive outlay for him.

3.13.5 Comments about Drivers

All of the riders agreed that most of the drivers provided the requisite level of assistance in helping riders to/from the vehicle. They added that a few of the drivers were not as careful and could use more sensitivity/disability awareness training.

3.13.6 Areas Of Concern/Improvement

In summary, areas where improvement is desired included the following:

- Some of the other booking agents/dispatchers are not so good; don't care
- Having to call 7 days to get your slot and denials
- Hold time on the phone is way too long
- Imminent arrival calls are inconsistent
- Will-call responses are way too long
- Concerned about complaining for fear that it may be used against them
- Would like to see a customer-facing phone app

CHAPTER 4: SIMULATIONS

4.1 Introduction

This chapter presents the methodology and findings associated with conducting optimization simulations that address the oversupply and undersupply of service. The two sets of simulations, one for each day of the week, focus on (1) optimizing the dedicated vehicle run structure, and (2) optimizing the run structure while also assigning a portion of the trips to non-dedicated service providers. AlphaRoute's AlphaPlan simulation tool was used both to identify the mismatch of service to the demand for each day of the week and then to perform the optimization simulations.

- **Run Structure Optimization.** The first strategy involves re-building the run structure to smooth out these imperfections. AlphaPlan starts with the demand profiles for MITS and builds runs/driver shifts to better accommodate the hour-to-hour changes in demand. Where possible, AlphaPlan also attempts to reduce the number of revenue vehicle service hours (RVHs). The result of the simulation is the "Optimal Run Structure" for each day of the week.

- **Service Mix Optimization.** The second strategy starts with the Optimal Run Structure for each day of the week, and then shifts varying percentages of trips to overflow providers operating in a non-dedicated mode and who are willing to comply with FTA/ADA paratransit requirements for their drivers. These requirements primarily entail training drivers "to proficiency" and ensuring that drivers are being drug and alcohol tested. Compliance with these requirements are generally not a problem for NEMT providers. Taxi companies and some TNCs (but Lyft and

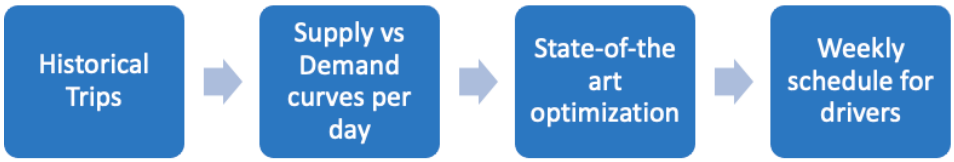
Uber) have also complied with these requirements in many cities across the U.S. in order to be serve as an overflow provider for ADA paratransit services. The split of trips scheduled to dedicated vehicles vs. assigned to non-dedicated vehicles is called "service mix." In these simulations, AlphaPlan, at certain service mixes, also estimates the number of dedicated runs that can be reduced. The objective of using non-dedicated service providers (NDSPs) is to reduce cost per trip. NDSPs can reduce cost per trip in two ways: (1) by reducing operating costs and (2) maximizing ridesharing in the dedicated vehicles. The in-house cost of operating dedicated vehicles is far greater than the cost of using NDSPs, where in many cases the drivers are independent contractors, working for lower wages and who do not receive near the employee benefits offered by the RTA. The use of NDSPs is also a more efficient way of serving (1) trips in low-density areas and at low-demand times, (2) will-calls and re-emerging no-showed trips, (3) trips impacted by accidents or incidents, (4) longer trips that are not ridesharable; and (5) basically any trips that adversely impact the productivity of the dedicated fleet. The point at which the combined cost per trip is minimized is called the "Optimal Service Mix."

4.2 Methodologies

4.2.1 Run Structure Optimization

The process for run structure (driver shift) optimization is illustrated in Figure 52. The process involved first analyzing the day-by-day, hour-by-hour supply of service (available service hours) vs. the day-by-day and hour-by-hour demand profile (historical trip requests). The analysis was based on 6 months of data from Trapeze. The TTI team then met with MITS staff to establish the respective sets of guidelines (e.g., parameters, work rules, and optimization rules), which were then loaded into AlphaPlan. Finally, AlphaRoute was then used to determine the optimal run structure (drivers shifts) to match the weekly demand, again respecting the guidelines provided MITS management. The goal of this analysis was to produce an optimal run structure based on the demand profile by day of the week and hour of day (and that conformed to the stated guidelines), that reflects a shifting of RVHs from times where there is an oversupply of service to times where they are needed more. And again, the simulation also identifies the possibilities where RVHs could possibly be reduced.

Figure 52: Run Structure Optimization Process

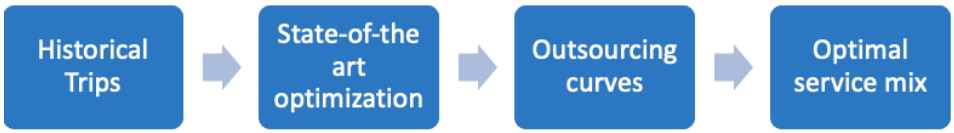


4.2.2 Service Mix Optimization

The process for optimizing the service mix is illustrated in Figure 53. This process involves using AlphaPlan to plan and simulate the use of overflow providers to better maximize cost efficiency. AlphaPlan uses historical trip data to quantify the results of dozens of different service mixes. In doing

so, AlphaPlan also identifies the best trips to be served by the dedicated vs. non-dedicated vehicles in each scenario. The compilation of millions of iterations is plotted in "outsourcing curves." The curves are analyzed to find the optimal service mix, where the cost per trip is minimized, in part by reducing the number of dedicated service RVHs and replacing that service with lower-cost NDSP overflow service and in part by smartly selecting daily which trips are the best candidates to be shifted to the NDSPs.

Figure 53: Service Mix Optimization Process



4.3 Optimal Run Structure Simulation

4.3.1 Input Datasets and Optimization Rules

MITS staff provided (1) a trip dataset of over 26,000 paratransit trips that were made during first five months of 2022, as well as (2) the run structure for each day of the week for the same period. A summary of this data set is provided in Table 6. A meeting was held with the MITS management team to define the key optimization rules, defining the boundaries of the optimization.

A summary of the optimization rules pertinent to MITS is presented in Table 7. Prior to beginning the simulation, the optimization rules were sent back to the MITS management for verification. No changes were needed.

Table 6: Summary of Input Data

Data Analyzed	JP Transit
# of Trip Requests	26,289
Start date	Jan 6 2022
End Date	June 13 2022
# of weeks	24
Busiest Day of the week	WED (Avg. 227 req)
Peak # of active shifts	15

Table 7: Summary of Optimization Rules

Parameter	Value	Notes
Min shift length (h)	8h	
Max shift length (h)	12h	
Min shift increment (h)	0.33h	20 min
Max # of active vehicles on the road	18	Ideally lower than 15
Min # of active vehicles on the road	0	
Max # of vehicles starting at the same time?		No constraints
Split runs (Y or N)	Y	Local team values split shifts
Can drivers start / end at different times at different days? Which days of the week can a driver work?	Y	Drivers appreciate the 4 workday schedule. No constraints over weekday vs weekend.
Max # of working hours per week?	40	Option to use some overtime, max 42h. No part-time drivers.

4.3.2 Simulations Description

JP Transit / MITS optimal run structure simulation was performed to evaluate the run structure in place at MITS. The supply vs demand analysis presented in the Tech Memo #5 showed a good alignment between supply and demand, thus the MITS runs structure simulation objective was to look for additional improvements. AlphaRoute team utilized its AlphaPlan tool to simulate and analyze the optimal run structure.

The optimization scenario simulated maintains the approximate amount of current total service hours, i.e. hours from pull-out to pull-in. The main objective is to reshuffle existent service hours into different days of the week and hours of the day, shifting hours from when there was an oversupply of service to hours where there was undersupply of service or to hours where it helps improve the overall solution.

Commented [RW1]: Is that correct?

Commented [DRRL2R1]: Yes.

4.3.3 Simulations Results

This simulation reduced the total amount of weekly service hours by only 5% (42 service hours) while reallocating most service hours to days of the week and hours of the days where it was needed the most. Small daily changes in service hours throughout the weekdays were made by the algorithm. An indication that there is no need for a major overall in the run structure but improvements in the allocation of hours can be made. Table 10 shows a summary of the new service hours distribution under this scenario.

This simulation reduced the total amount of weekly total service hours by only 5% (42 service hours) while reallocating most service hours to days of the week and hours of the days where it was needed the most. Only small daily changes in service hours throughout the weekdays were made by the algorithm. This an indication that, based on the current demand, there is no need for a major overall in the run structure. But improvements in the allocation of hours can be made. Table 8 shows a summary of the new service hours distribution by day under this scenario.

The optimization solution maintained the same number of required drivers (20 drivers) but increased the number of shifts by 10% (8 new shifts). This included increasing the use of (4 hour +4 hour) split shifts hour shifts) by 33% by adding 5 split shifts to the 15 current split shifts). Table 9 shows a comparison between the number of current and optimal shifts. Both the increase in number of shifts and the increase in the number of split shifts are an indication of the need of shorter shifts to better fit the demand curve and its pronounced peaks. In that regard, Wednesday and Friday get the highest increase in the number of shifts (20%). The run structure optimization allocated 12 drivers in a 4 workdays schedule (60%) and 8 drivers in a 5 workdays schedule (40%).

Table 8: Simulation Results vs Current Service Hours

Weekday	AlphaRoute (h)	Current (h)	Gap (h)
Sun	28	39.5	-11.5
Mon	147	164	-17
Tues	133	149	-16
Wed	159	159	0
Thu	140	149	-9
Fri	153	147.5	+5.5
Sat	47	41	+6
Total	807	849	

Table 9: Number of Shifts Comparison

Weekday	AlphaRoute	Current	Gap
Sun	3	4	-1
Mon	16	15	+1
Tues	14	14	0
Wed	18	15	+3
Thu	15	14	+1
Fri	17	14	+3
Sat	5	4	+1
Total	88	80	

While evaluating expected performance for this scenario, the optimal run structure produced expected productivity (measured in registrant trips/service hour vs. passenger trips per RVH) that were on average 11% higher than the current average. For this scenario, on-time performance is expected to maintain or slightly increase due to better allocation of hours to where it is needed the most, noting that small customizations might be required to fulfill specific operational needs. The solution also allows for a 29% reduction in the variability of each day's productivity measure by the standard deviation of the productivity, i.e. it produced a much more stable solution without major peaks and valleys in productivity throughout the day. A summary of the productivity and each day's productivity variability metrics under this scenario is presented in Table 10.

Next, in Figures 54 through 60, we present graphical representations of the supply vs demand curves for each day of the week and each hour of the day under the simulation, comparing actual demand with both the current run structure and proposed run structure. The color scale on the bottom of the graph represents the expected productivity to close the gap between supply and demand. Ideally, a good solution will try to minimize periods with very high and very low expected productivity (as represented by the more intense hues in the figures), while looking for a more stable solution within standard paratransit industry productivity levels. A more stable solution usually helps minimize on-time-performance issues during the day-of-service.

Please note that overnight shifts are included in the overall analysis numbers but they were excluded from the graphical representation to facilitate visualizations.

Table 10: Productivity and Productivity Variability Comparison

	Expected Productivity (trips/serv. Hour)		**Intraday Prod. Variability**	
Day	*Current - Avg*	*Alpha - Avg*	*Current - Std*	*Alpha - Std*
Sun	1.09	1.54	0.37	0.34
Mon	1.21	1.37	0.40	0.33
Tue	1.14	1.44	0.50	0.26
Wed	1.34	1.40	0.51	0.39
Thu	1.17	1.39	0.51	0.46
Fri	1.32	1.37	0.52	0.35
Sat	1.54	1.43	0.58	0.31
Weekly Avg	***1.26***	***1.42***	***0.48***	***0.34***
% Change	***11%***		***-29%***	

Figure 54: Comparative Analysis for Mondays

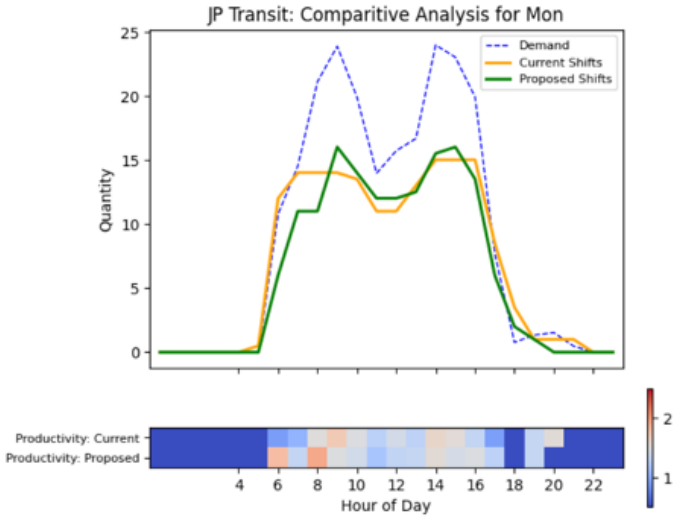


Figure 55: Comparative Analysis for Tuesdays

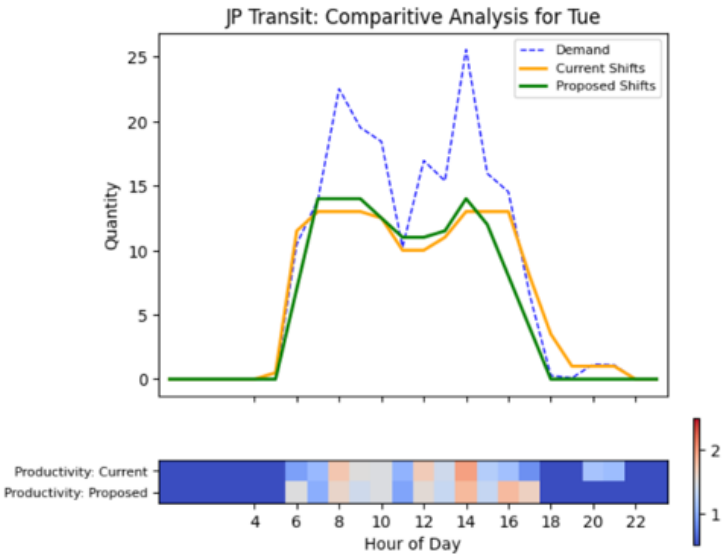


Figure 56: Comparative Analysis for Wednesdays

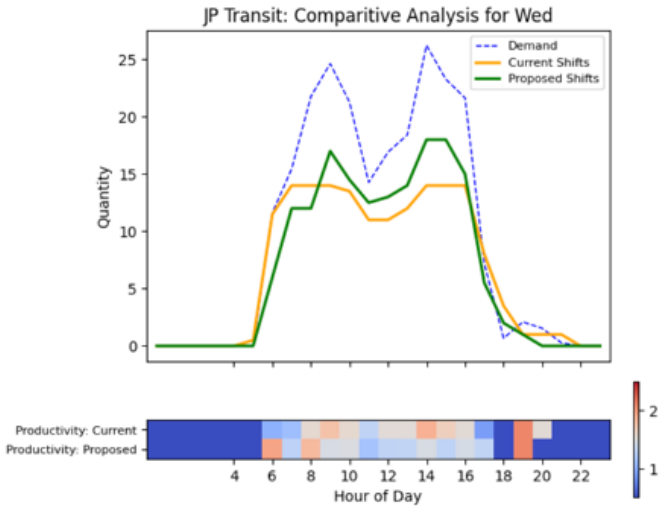


Figure 57: Comparative Analysis for Thursdays

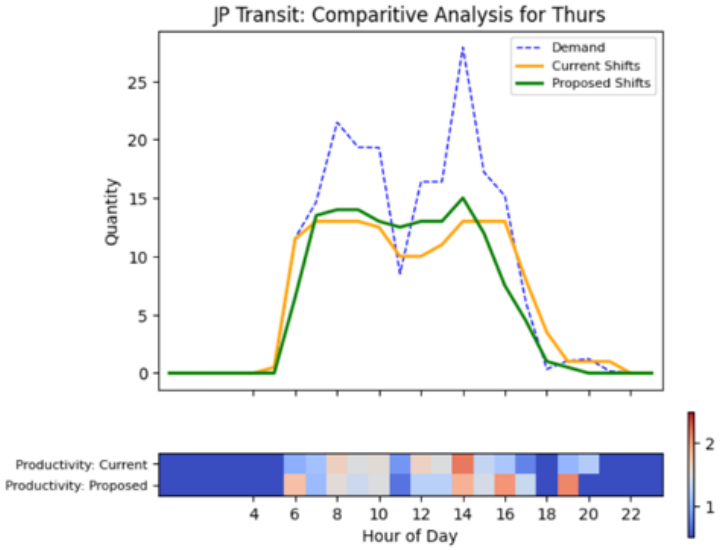


Figure 58: Comparative Analysis for Fridays

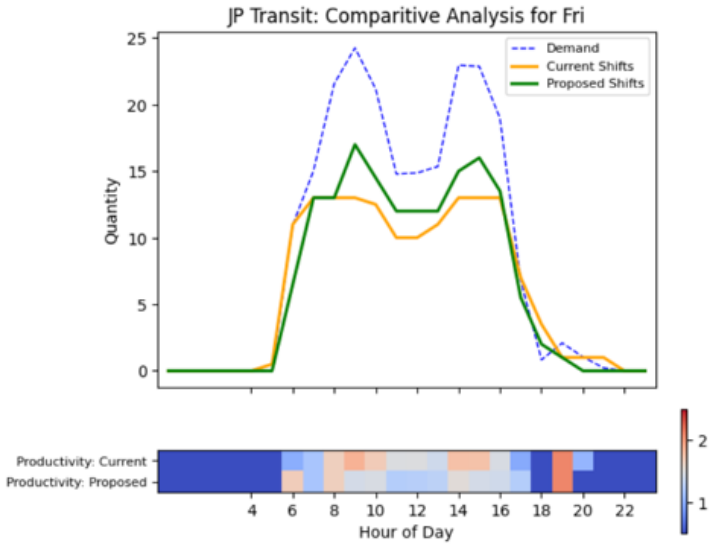


Figure 59: Comparative Analysis for Saturdays

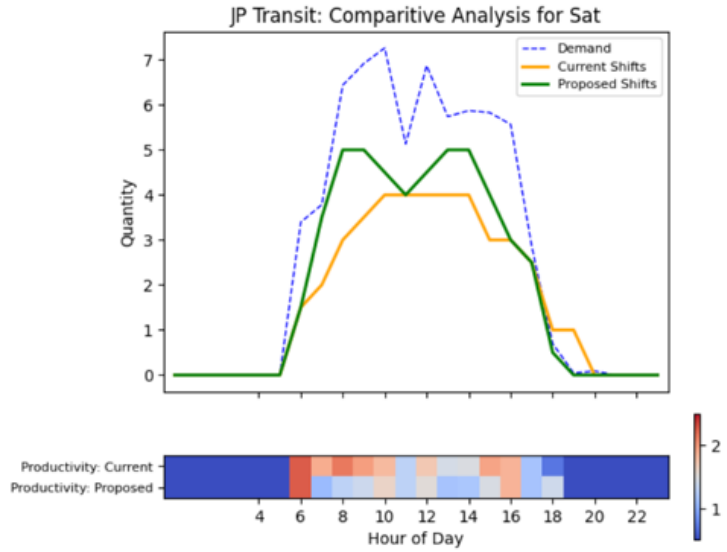
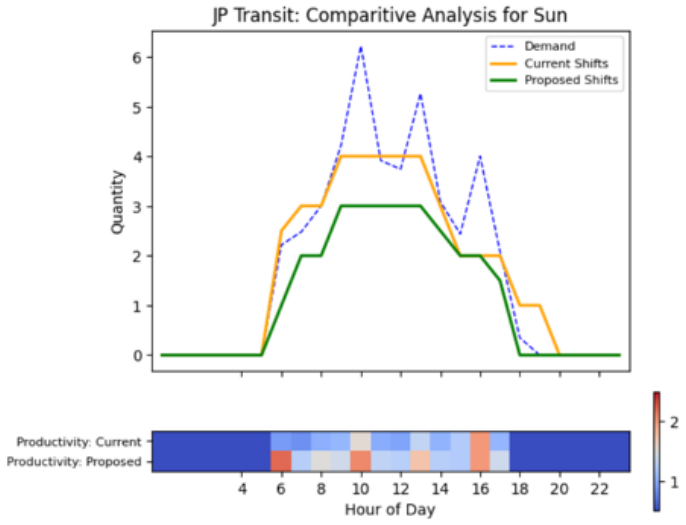


Figure 60: Comparative Analysis for Sundays



4.3.4 Optimal Run Structure - Strategy Evaluation

The optimization solutions result in significant improvements over the current run structure solution:

- 11% improvement in expected productivity
- Up to 29% reduction in intraday productivity variability. This will support a more robust solution with less day of service issues

From the run structure analysis (see Section 3.6) we recommend the following needs:

- Mondays, Wednesdays and Fridays
  - Better alignment with the two peaks demand pattern
  - additional supply at morning peak and at midday to help recovery from morning peaks
  - reduce excess capacity after 6pm
- Tuesdays and Thursdays
  - additional supply to help recovery from morning peaks
  - Adjust afternoon supply to better match afternoon peak
  - reduce excess capacity after 6pm
- Saturdays
  - Add extra capacity in the morning
  - Add capacity during the day and reduce evening hours
- Sundays
  - reduce excess capacity throughout the day, especially morning / evening

As an overall strategy for implementation, we suggest the following plan:

- Customize and re-bid the run structure following optimal shifts
- Monitor changes in demand patterns
- Re-optimize shifts at least twice a year or at every major change in the system

Transdev's local management team indicated that they do not regularly undertake run structure evaluations, but rather make only small changes from time to time. It is important to highlight the importance of adjusting the run structure frequently, at least twice a year, using the most recent operational data.

4.4 Optimal Service Mix

4.4.1 Input Datasets and Optimization Rules

For this service mix analysis, we used the same data set provided by the MITS team for the optimal run structure analysis described above.

4.4.2 Simulation Description

The service mix simulation analyzed seven different service mixes, using 158 days of service. Trip scheduling was done utilizing travel times with traffic to improve accuracy of the results, starting with the optimal run structure simulation in . Three main visualizations represent these results:

- **NDSP Outsourcing Curve** - This curve represents the mean fraction of trips outsourced for each number of vehicles in the dedicated fleet for all days in the analysis. The objective of this curve is to allow a transit agency to make a data driven decision to select a target level of outsourcing.
- **NDSP Outsourcing Distribution** - This curve represents the range of NDSP outsourcing for each number of vehicles in the dedicated fleet for all days in the analysis. The objective of this curve is to allow a transit agency to understand the variability of the level of outsourcing. I.e. the minimum, the median and the maximum percentage of trips outsourced from all days in the analysis.
- **No Outsourcing Curve** - This curve represents the fraction of all days in the analysis with 0% outsourcing for each number of vehicles in the dedicated fleet. The objective of this curve is to allow a transit agency to understand the service reliability on non-dedicated vehicles and additional operational capacity with outsourcing.

4.4.3 Simulations Results

In order to create the baseline for comparison of the outsourcing results, we looked into the data set to determine the daily peak number of vehicles (15) in use during the dataset period. This was also discussed with and approved by the MITS team.

Table 11 compares, for each day of the week, the number of dedicated vehicles currently required vs. the number of dedicated required under the optimal run structure from Section 4.3, without any outsourcing. Under optimal run structure, the peak number of dedicated vehicles can be reduced from 15 (on Mondays) to 14 (on several weekday), a 9.3% reduction from the current peak. In some days (Sundays, Thursdays and Saturdays), more vehicles are required than currently in use, indicating some potential capacity constraints.

Table 11: Peak Number of Vehicles Comparison with No Outsourcing

Day	AlphaRoute (no outsourcing)	JP (no outsourcing)	Gap
Sun	**5**	**4**	**+1**
Mon	**14**	**15**	**-1**
Tue	**13**	**13**	**0**
Wed	**14**	**14**	**-0**
Thu	**14**	**13**	**+1**
Fri	**13**	**13**	**0**
Sat	**6**	**4**	**+2**

The difference of only one vehicle (current peak and the simulation's peak without outsourcing) indicates good use of the current scheduling practices but also indicates that there are limitations on the amount of possible ridesharing due to the limited number of paratransit trips in the system per day.

Note that the optimal service mix analysis was performed using trip request times (true demand) and not the negotiated times (final demand). In addition, it is important to remember that the demand, upon which these simulations are based, has been somewhat controlled by reservation agents as discussed in Section 2 and hence may not represent the true quantity and distribution of the demand that may materialize. That said, trip negotiations may further reduce the number of vehicles required in the analysis.

Figures 61-63 show the additional vehicle-reduction "before-and-after" results that result from incremental levels of outsourcing compared to the optimal run structure from Section 4.3. Note that we grouped days of the week with similar demand to simplify the analysis and implementation. Thus, for Mondays and Fridays (Figure 61) and Tuesdays, Wednesdays and Thursday s(Figure 62), our starting point for the analysis is 14 vehicles. For Saturdays and Sundays (Figure 63), with very low ridership, our starting point is 6 vehicles. If MITS decides to move forward with outsourcing, an optimal level of outsourcing can also be defined for each day of the week to maximize performance. Those respective

starting points are reflected in Figures 61-63 by the vertical black line on the right side of the graphs. So, as an example, in Figure 61 (Mondays and Fridays), outsourcing just 4% of the MITS trips to NDSPs could reduce the number of dedicated vehicles from 14 to 11.

Figure 61: NDSP Outsourcing Curve for Mondays and Fridays

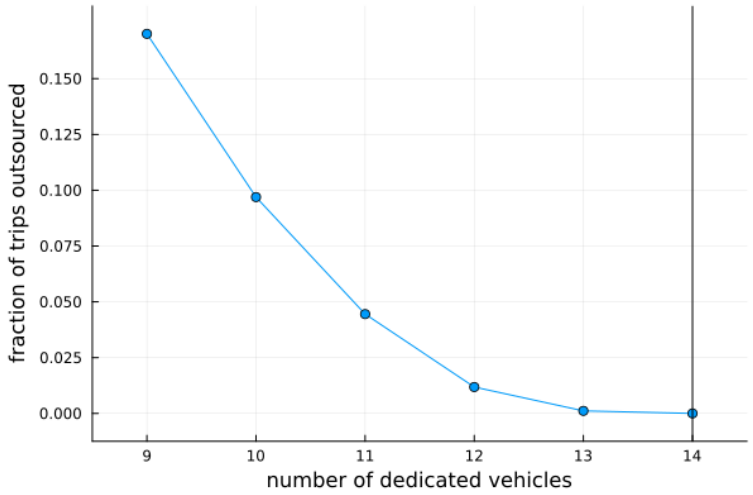


Figure 62: NDSP Outsourcing Curve for Tuesdays, Wednesdays and Thursdays

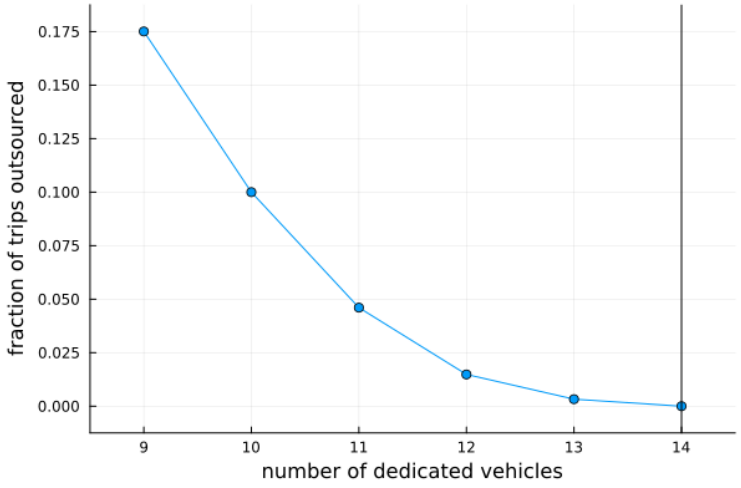
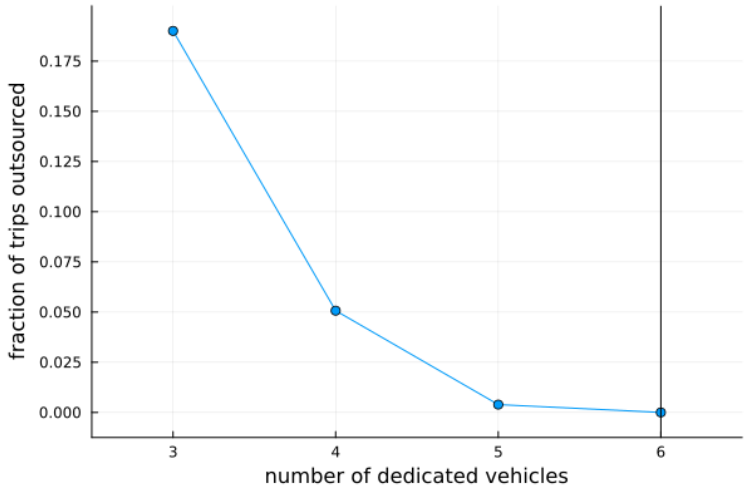


Figure 63: MITS NDSP Outsourcing Curve for Saturdays and Sundays



From the analysis, we suggests a level of 4% of trips outsourced to one or more NDSPs as a starting point. The primary focus of outsourcing should be to increase capacity, and not reduce the number of dedicated vehicles. In this case we use the reduction in the dedicated fleet as an indicator to represent the additional capacity available if outsourcing was introduced into the system without reducing the dedicated vehicles fleet. As an example, a level of 4% outsourcing will represent an equivalent of 3 additional dedicated vehicles on the road from Monday to Friday (14 vehicles with no outsourcing minus 11 dedicated vehicles required with 4% outsourcing = 3 vehicles).

That same 4% level of outsourcing in Figure 63 (Saturdays and Sundays), represents an additional 2 dedicated vehicles on the road on Saturdays and Sundays (6 vehicles with no outsourcing minus 4 dedicated vehicles required with 4% outsourcing = 2 vehicles).

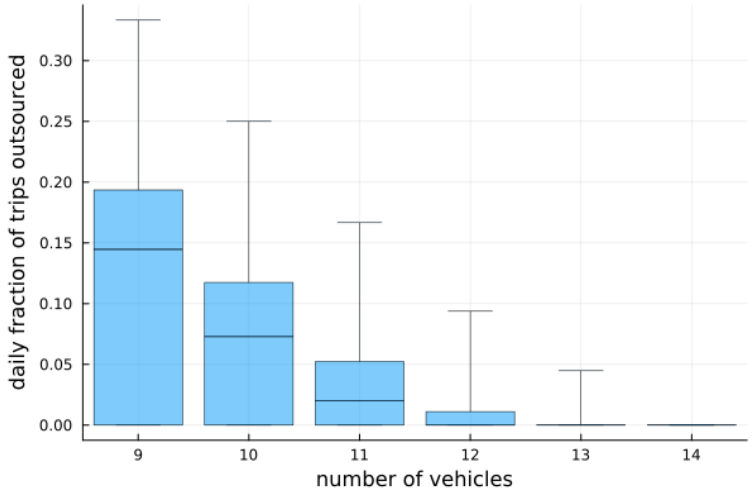
Outsourcing at this level thus equates to having the equivalent of 18 dedicated vehicles on weekdays.

It is important to remember that these changes are all based again on the optimal run structure as produced by AlphaPlan's routing algorithms. Thus, under the current run structure, a similar change will require more dedicated vehicles. Still, even under the current run structure, a service mix of 96%/4% might be a good place to start for all days, assuming there are NDSPs in Jefferson Parish that have the available capacity and that are willing to meet ADA paratransit requirements for driver training and driver drug and alcohol testing. As the NDPS capacity increases, Transdev can experiment with outsourcing higher percentages of trips.

The Outsourcing Distribution chart is presented in Figure 64. This shows the range of NDSP outsourcing for each number of vehicles in the dedicated fleet for all days in the analysis. From the bottom up, each element represents:

- The minimum percentage outsourced
- Percentage outsourced for 25% of the days (Lower quartile)
- Percentage outsourced for 50% of the days (Median)
- Percentage outsourced for 75% of the days (Upper quartile)
- The maximum percentage outsourced

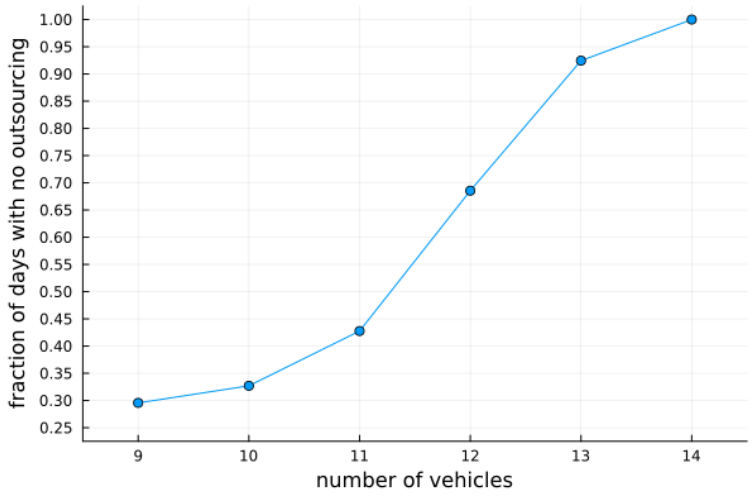
Figure 64: MITS Outsourcing Distribution



So, for example, at 11 dedicated vehicles, the MITS would outsource 0% outsourcing on slow days (when the dedicated fleet will be sufficient) up to a maximum of 17% on the busiest day, with a median of 2%. This graph provides MITS management with a range of how many trips should be outsourced to maximize the performance on the overall system. The numbers on this plot should be used as references for NDSP contractual decisions and service planning. From the study, at 11 dedicated vehicles, the number of outsourced trips were between 0 to 43 trips on weekdays and 0 to 14 trips on weekends. To determine exactly which trips and how many, optimal outsourcing needs to be done on a daily basis using the actual available run structure. Otherwise, MITS may incur the "double cost" of having excess capacity on the dedicated vehicles and paying for an outsourced trips, or on-time performance may be adversely impacted because of outsourcing fewer than needed trips.

To better understand the frequency of these days with 0% outsourcing, AlphaRoute created the No Outsourcing curve, shown in Figure 65. This curve represents the fraction of all days in the analysis with 0% outsourcing for each number of vehicles in the dedicated fleet.

Figure 65: MITS No Outsourcing Curve



For example, with 11 dedicated vehicles, 42% of all days in the analysis required no outsourcing. This is due to the fact that there is variability in demand, i.e., demand varies per day of the week, month of the year, types of trips, trip volumes and time of trip requests, etc.

On days when no-outsourcing is required, NDSPs can be used to help improve on time performance and help dispatchers to handle day-of-service issues. A target level of outsourcing per day of the week could also be set to reduce the number of days with 0% outsourcing.

4.4.4 Optimal Service Mix - Strategy Evaluation

Implementing an efficient outsourcing strategy would provide the following benefits compared to the no outsourcing solution:

- **Mondays to Fridays:** Augment the current capacity in up to 3 dedicated vehicles (21%) with a 4% outsourcing level
- **Saturdays and Sundays:** Augment the current capacity in up to 2 dedicated vehicles (33%) with a 4% outsourcing level
- **Additional overall benefits of the use of NDSPs**:
    - Improve service availability
    - Reduction on trip negotiations and reduce the deviations from request time and negotiated times
    - Alleviate vehicle shortage
    - Positive impact on on-time performance by using NDSPs on scheduling and during day-of-service
    - Reduction of cost per trip

Depending on MITS objectives, the outsourcing strategy could be tailor to achieve one or multiple goals such as:

- Cost reduction
- Improve service capacity
- Improve on-time performance
- Provide alternative service

As an overall strategy for implementation, we suggest the following plan:

- Plan and contract for NDSP services
- Start with 4% percent of trips outsourced
- Implement a daily dedicated vs. non-dedicated vehicle optimization
- Adjust dedicated vehicle fleet over time
- Monitor changes in demand patterns, volumes of trips and NDSP service adoption
- NDSP strategy can be a valuable resource to help alleviate potential capacity constraints and help accommodate demand growth, service area increase and control operational costs.

As an additional strategy, contracting with NDSPs that also have wheelchair-accessible vehicles will provide schedulers and dispatchers with more flexibility, but it is not critical to achieving the results above. And as mentioned above, the NDSPs must be willing to abide by certain ADA paratransit requirements. The MITS may find that some NDSPs require a certain minimum daily volume of trips.

The Federal Transit Administration (FTA) and Transportation Research Board (TRB) have done extensive research on the use of non-dedicated service providers, e.g., TCRP Report 121, *Toolkit for Integrating Non-Dedicated Vehicles in Paratransit Service*, for which TTI's Will Rodman served as Principal Investigator. Another recommendation from the TTI consulting team was to reach out to other transit agencies with more mature NDSP programs to learn from it. NDSP strategies can be an extremely valuable resource to help the MITS deal with demand growth, service area increase and control operational costs.

CHAPTER 5: RECOMMENDATION

Chapter 5 provides recommendations for MITS stemming from the findings in the preceding chapters. The recommendations focus on strategies that will improve the service/cost efficiency, service quality, and compliance. The recommendations, boxed in each section, are categorized into **Immediate** (within 1 year), **Short-Term** (2-3 years) and **Long-term** (4+ years).

5.1 Organizational Structure

Based on the very low number of complaints, interviews with staff, and feedback for riders, the study team has concluded that not all complaints are being recorded. See also Section 9. Complaint Management.

In addition, there is an inherent conflict of interest by assigning the eligibility function to an operations contractor – the more eligible applicants, the more trips; the more trips, the more service hours are needed to serve the trips; and the more service hours provided, the more the contractor is paid. Generally, it is much more common with ADA paratransit services to not vest the eligibility function with the operations contractor because of this conflict of interest.

Recommendations: (1) The complaint management function should be removed from Transdev's contract responsibilities and transferred to a Jefferson Parish employee or Solutient. (2) The eligibility function should also be removed from Transdev's contract responsibilities and transferred to a Jefferson Parish employee or a third-party eligibility specialist or firm.

5.2 Policies and Practices

5.2.1 Service Area and Elimination of Transfers

The current (since mid-March 2022) removal of inter-parish transfers have led to both MITS and RTA performing inter-parish trips. By adopting this policy and practice, both MITS and the RTA effectively increased their service area resulting in decreased productivity, due to the longer trips, and service duplication.

Recommendation: To reduce, if not eliminate, service duplication, one of the following changes in policy should be made, noting that any changes should be discussed and planned in advance with RTA/LIFT management. Scheme #1: The customer calls the system responsible for the area in which the trip originates. So, if a rider lives in Jefferson Parish and works in Orleans Parish, the customer would then call MITS for the going trips and LIFT for the return trip. Scheme #2: The customer calls the system based on residence, arranging for the entire round trip with that agency. **Short-term.**

5.2.2 Eligibility Determination

As with the RTA, eligibility determination has relied on a review of applications. There have been numerous studies in the industry which have concluded that a 100% paper review process is the most lenient/inclusive of the certification approaches and results in many more applicants being deemed eligible. In-person interviews end up resulting in applicants self-selecting out. And the use of functional assessments and FACTS testing is also a much proven way of accurately determining eligibility, and in particular, conditional eligibility. In-person interviews and functional/FACTS assessments provide greater

clarity and accuracy in determining applicants who are truly ADA paratransit unconditionally or conditionally eligible.

Recommendation: Jefferson Parish or its contracted eligibility determination specialist/organization (see Section 1) should require in-person interviews for all applicants and functional/FACTS assessments as necessary. Such interviews and assessment should also be a part of the initial recertification process. **Immediate.**

5.2.3 Advance Reservations

The biggest shortcomings of the booking process, alleged by all of the riders participating in the focus group, is the non-compliant practices of (1) directing riders to call 7 days in advance if they have any hope of getting a trip when they want, but also (2) directing riders not to request trips during high demand times. For ADA paratransit services, riders must be able to call the day before to arrange for a trip. To us, this strongly suggests a capacity constraint, which was further confirmed by the run structure analyses performed in Task 6.

Recommendation: These practices should cease. If trip negotiations wind up without a solution, call center staff should record the trips requests as a denial. Patterns of denials are one of several indicators of a capacity constraint. The practices above mask the problem. **Immediate.**

5.2.4 Pick-Up Times and On-Time Performance

While Trapeze does have the capability to suggest solutions for a pick-up time based on a requested drop-off time or stated appointment, this feature is not being used by MITS. For those riders who do provide an appointment time or a requested drop-off time, the MITS procedure is to input a pick-up time that is 30 to 60 minutes beforehand (depending on distance) and then proceed as above. In cases where trips need to cross the Mississippi River, an earlier pick-up time is commonly entered. Moreover, appointment times are not designated in any way. So, if there are unforeseen delays, neither the dispatcher nor the driver has a documented understanding as to when the rider needs to be at his/her appointment.

Yet another shortcoming is the practice for establishing a confirmed +/- 15-minute pick-up window. In short, and by directive of the Operations Manager, the quoted window is always based on the requested (or negotiated) pick-up time. But by doing this, it puts the rider and driver on different footing, with different expectations. If a suggested solution falls within 15 minutes (plus or minus) of the requested pick-up time, the reservation agent schedules the trip onto that run, with the agent giving the pick-up window (+/- 15 minutes based around the original requested pick-up time and not based on the estimated scheduled pick-up time (as provided by Trapeze). This is a highly unusual practice with a system like Trapeze and results in limiting the flexibility to serve the trip on time and providing the rider with misleading information that could result in late arrivals at the destination.

The on-time performance standard in Transdev's contract is 88%. A more common industry standard for ADA paratransit is 90%.

Recommendations: (1) At a minimum, appointment times or requested drop-off times should be noted in the notes field. (2) MITS reservation agents should book trips based on appointment times or requested drop-off times for trips so requested. This is done by entering that time in the requested drop-off field. By using Trapeze's wizard for real-time scheduling, the system will provide a calculated pick-up time, which would then serve as the basis for the confirmed pick-up window. Scheduling optimization processes can then be tailored to move a scheduled pick-up time only so far within the confirmed pick-up window (if at all). (3) With this change, on-time performance for such trips should be based not only on the vehicle arriving during the confirmed pick-up window but also arriving at the destination by the requested drop-off time. (4) MITS should also establish a drop-off window, such as -15/0 minutes, to address early dop-offs. (5) Confirmed pick-up windows should be based on the Trapeze solution accepted. **Immediate.** (6) The contractual on-time performance standard should be changed to 90%, noting recommendation #3 above.

5.2.5 Subscription Trip Policy

Subscription trips, currently reflecting 40% of the trips served, are defined by MITS as trips taking place at least 3x per week. If there are no capacity constraints, MITS can schedule as many subscription trips as it wishes, noting that subscription trips tend to result in increased productivity and on-time performance and reduce the number of calls coming into the call center.

Recommendation: After other recommendations to address capacity constraints are implemented and are proven successful, MITS management may revisit the policy of limiting subscription trips to those that run a minimum of 3x per week. The RTA for example, allows subscription trips that run once a week. **Short-term.**

5.2.6 No Show/Late Cancellation Policy and Subscription Trip Cancellation Policy

MITS has a reasonable no-show/late cancellation policy, but it is not being managed. Reducing the number of no-shows and late cancellations will have a positive impact on both productivity and on-time performance.

Unlike the RTA, MITS does not have a policy for an unreasonable number of subscription trip cancellations. RTA's policy states that cancellations of subscription trips in excess of 20% will result in cancellation of the subscription trip, although the period of time in which this calculated is not specified.

Recommendation: JP Transit should add a subscription service suspension policy and immediately begin pursuing riders suspensions based on its existing no-show/late cancellation policy and the new subscription cancellation policy. In conjunction with this, correspondence should go out to all riders that this will now be managed in earnest in an effort to improve on-time performance. **Immediate.**

5.3 Vehicle Fleet, Fleet Maintenance, In-Vehicle Equipment

5.3.1 Vehicle Fleet

The current fleet is fairly uniform with 18 2016 propane fueled buses, 16 of which have a capacity of 8+2, and two vehicles having a capacity of 10+2. Numerous transit agencies have successful migrated to more diverse fleet mixes including some smaller wheelchair accessible vehicles (WAVs) that are less costly to acquire and operate and some non-accessible vehicles which are less costly still, especially in

view of the percentage of trips that require WAVs is typically around 25%. In addition, with the supply chain issues, there is a shorter delivery schedule for non-accessible sedans and minivans.

The current propane fueled fleet comes with some operational issues, as vehicles can be stressed during warmer weather due the energy needed to run the vehicle systems (particularly the air conditioning). On hot days, it is not uncommon for the MITS vehicles to stall out at a stoplight or even within an intersection. These events pose a potential safety issue if vehicle-stalling happens at a bad moment and causes the vehicle to become involved in a collision. In addition, all propane fueling of the vehicles is done on-site at the East Bank facility, where JP Transit has a large propane tank installed. Maintenance staff do the fueling of the propane vehicles at the ending/beginning of the day or when drivers come in for break in the middle of a run; drivers are not allowed to fuel the vehicles themselves. MITS management expressed that the propane vehicles are not a major issue but can sometimes bring on logistics issues for the agency during hurricane events (due to the inability to fuel the vehicles elsewhere).

All of the MITS fleet are stored and operated out of the Jefferson Parish Transit facility in Metairie. This results in long deadheads to trips originating on the West Bank.

Recommendations: (1) It is our opinion that the benefits of the propane fueled vehicles do not outweigh the potential safety issues and operational inconvenience of propane fueling. As such, consideration should be given to diesel or gasoline fueled vehicles during the next procurement cycle (2023). (2) To save cost and perhaps improve the quality of the ride for some riders, JP Transit should also consider diversifying the fleet to include smaller Ford Transits (with 1 w/c position), larger vehicles (similar to the current vehicles), and sedans/minivans. (3) If the run structure and service mix recommendations do not totally address the capacity constraints, Jefferson Parish should look to enlarge the size of its vehicle fleet to allow for a 25% spare ratio. **Short-term.** (4) Transdev should experiment with staging some of its MITS fleet at JP Transit maintenance facility in Gretna to reduce deadheading. **Immediate.**

5.3.2 Fleet Maintenance

The Transdev maintenance manager commented that the certain vehicles from the current vehicle fleet were incurring many more miles than others, resulting in inconsistent aging.

Recommendation: Transdev should develop a plan to rotate vehicles among runs so that mileage across the fleet accrues more evenly. **Immediate.**

5.3.3 Tablets

The maintenance of driver tablets is handled by IT manager. One of the benefits of SIM card based tablets is that SIM cards cab be swapped in and out fairly easily and quickly as a solution to a tablet communication, especially at pull-out when time is of the essence. However, this task seems to fall on the IT manager because the maintenance staff have expressed that they are not able to handle switching out sim cards in the tablets. However, the IT manager comes into the office after vehicle pull-out; by this time, the MITS operations supervisor has already decided to send out the vehicle with a malfunctioning tablet.

MITS management also stated there has been some mismatch issues since there was a Transdev corporate decision to move from Verizon to T-Mobile as the wireless vendor, the mismatch occurring between the tablets that worked fine under Verizon but less so with T-Mobile. This problem may resolve itself eventually with the replacement tablets coming from T-Mobile.

For whatever reason, whether it be malfunctioning tablets or drivers not consistently performing arrivals on the tablets, an analysis of data from the first half of 2022 showed that 36% of trips did not have the data to establish whether a vehicle was on-time or not.

Recommendations: (1) The function of swapping out SIM cards should be a maintenance function, and the maintenance staff should be trained accordingly and directed to fulfill this function. (2) A tablet should be mounted in all of the COA vehicles so that communication is possible when they are deployed as backup vehicles for MITS service. **Immediate.**

5.4 Technology

5.4.1 Trapeze PASS Scheduling/Dispatching System

Trapeze is the primary software used to support MITS. MITS call center staff use Trapeze to enter trip requests and schedule them onto specific runs operating on the requested trip date, based on solutions that Trapeze suggests (real-time scheduling). If called in on the day before the trip date, the trip will be denied, noting that there a very few such instances according to staff. If the call comes in on an earlier day, the trip request will be left unassigned. Staff will periodically look to see if these can be scheduled as a result of new holes opening up because of cancellations; however, if the trip is left unassigned, the scheduling of such trips becomes the responsibility of the MITS Operations Manager. The Operations Manager also performs the final review (and tweaking, as needed) of tomorrow's schedule.

All trips are scheduled one at a time; no batch optimization is conducted. As was discussed with LIFT, not batching trips being taken up to 7 days in advance is somewhat unusual. The problem arises when a system-generated solution for a trip entered 7 days before the trip date is suboptimal by the day before the trip date as a result of other trips scheduled and cancelled in the interim; indeed, this is the reason for automated batching. However, local staff are leery of batching scheduling because they are not convinced that the scheduling parameters in Trapeze are tuned to reflect the desired balance between service quality (on-time performance and on-board travel time) and service/cost efficiency. These parameters are set and controlled by Transdev corporate staff, and local management is uncertain whether or not they have been tuned to reflect that desired balance or the general characteristics of Jefferson and Orleans Parish and especially given the bridges.

On the day of service, dispatchers use Trapeze to monitor the progress of the MITS runs, to re-assign trips as needed (using the same capabilities as available to the schedulers), and process no-shows and missed trips. Dispatcher-driver communications are performed with Trapeze via both the tablets and "push-to-talk" radios.

Trapeze also serves as the primary source for reporting, providing a full array of standard reports that meet JP Transit's needs for performance monitoring and NTD reporting.

Recommendations: JP Transit should retain a Trapeze expert to (1) review and adjust scheduling parameters, including system speeds by time of day, so that Trapeze solutions are accepted by schedulers and can be realistically driven by operators; (2) implement new job agent batch for optimizing future day schedules (3) implement a new job agents for service-day optimization; and (4) work with staff in tuning Trapeze, setting up job agents, and training LIFT staff to better manage Trapeze. (5) MITS dispatchers should utilize Viewpoint as a real-time dispatch tool as well as a resource for exception-based data management (i.e., trip reconciliation). (6) We also suggest that the JP Transit acquire and implement PASS-WEB G3 so that customers can review, cancel (and eventually book) trips without having to contact MITS staff by phone. (7) In addition, if schedulers and dispatchers are challenged by new developments and street name changes, JP Transit may wish to look into updating the base map in Trapeze. (8) JP Transit may also wish to consider moving Trapeze to the cloud, which would require Jefferson Parish to upgrade Trapeze to Version 21 (V21). Trapeze has said that the timeline for moving all clients to the cloud is still to be determined, but it is the study team's estimate this transition will occur over the next 5-10 years. While this may or may not be the long-term vision for MITS, other benefits of upgrading to V21 as soon as is practical include taking advantage of all the latest features (especially a much more robust and MUCH better-designed dispatching function) of the products as well as ensuring the JP Transit license is on a fully supported version of the software. **Immediate.**

5.4.2 Replace Trapeze?

There are now several alternatives to Trapeze, some emerging from the on-demand technology vendors but that are now proven in medium-to-large ADA paratransit services. Indeed, several transit systems are using these software systems to support both their microtransit and ADA paratransit services in cases where they operate microtransit solely or partially with dedicated vehicles or where the two services are consolidated.

Recommendation: JP Transit should keep its eye out for how the new products are faring elsewhere. If Trapeze ultimately proves to be too expensive, JP Transit can always conduct an RFP or RFI procurement effort to see about capabilities and cost, and then decide whether to keep or replace Trapeze based on the responses. **Long-Term.**

5.5 Booking, Scheduling, and Dispatching

5.5.1 Booking and Trip Negotiation

The staff in the MITS call center all perform reservations, scheduling and dispatching. Call center staff book trips in real-time in Trapeze. If a suggested solution falls within 15 minutes (plus or minus) of the requested pick-up time, the reservation agent schedules the trip onto that run, If no solution is presented, staff will conduct trip negotiations. Trips requested by drop-off time or appointment are converted to a pick-up time, about which on-time performance is measured. No record of the requested drop off or appointment time are noted in the trip notes, nor does it seem to matter whether or not a rider gets to an appointment time on time, as it is not reflected in MITS' on-time statistics. The major booking issues are the non-compliant practices of (1) directing riders to call 7 days in advance if they have any hope of getting a trip when they want, but also (2) directing riders not to request trips during high demand times.

Recommendation: All four of these practices should be corrected as soon as possible. **Immediate.**

5.5.2 Scheduling

MITS' scheduling and dispatching staff do not use Trapeze's batch scheduling function to optimize a schedule (i.e., to make it more productive or make it more customer-friendly or otherwise to achieve a balance of the two goals). Indeed, there is very little effort to revise the initial scheduling of trips, once a trip has been initially scheduled, leading up to the day of service. A trip scheduled 7 days in advance may no longer be in the optimal place in a schedule given trips that are subsequently scheduled or cancelled. These can often lead to holes, or a sequence of events on a driver/run manifest that no longer makes sense.

It is possible with Trapeze to set up automated or on-demand processes (called "job agents" in Trapeze) to do batch optimization jobs. As part of the process, directives can be established which may shift a pick-up time within the quoted pick-up window and possibly shift a trip from one run to another in order to generate a more productive schedule, or otherwise achieve the balance between service efficiency and OTP that JP Transit desires.

Many transit agencies use batch scheduling to optimize the schedule, as well as to run specific scheduling processes, such optimizing just their wheelchair trips a few days out, optimizing the next-day's schedule, with different constraints for different job agents as the "scheduling day" progresses, and even service-day optimization. Some transit agencies arrange for these processes to run automatically, some require a scheduler or dispatcher to trigger the process, and some automated optimization functions can run continuously as soon as the trips date's schedule is created 7 days out. But MITS is not taking advantage of these capabilities; as mentioned previously, local staff are leery of batch optimization functions because they are not convinced that the scheduling parameters in Trapeze are properly tuned.

Recommendation: Once Trapeze's scheduling parameters are properly tuned, MITS staff, with the help of a Trapeze expert, should develop and deploy various job agents to re-optimize trips on the days leading up to the trip date, and at the very least, on the day before the trip date. **Immediate.**

5.5.3 Subscription Trips

With subscription trips changing or ending from time to time, it is important that the scheduling of the subscription trips on these master schedules be reviewed frequently (ideally, once a month) in order to determine if the scheduling still makes sense. The greater the percentage of subscription trips, the more influence they have on the overall productivity of the services. Currently, there is no regular systematic process for reviewing the efficiency of the scheduled subscription trips.

Recommendations: MITS Operations Manager should systematically review the efficiency of the scheduled subscription trips once a month. Once the underlying issues with Trapeze are resolved, a separate job agent for optimizing subscription trips can be used as a tool in a test area for identifying possible revisions. **Immediate.**

5.5.4 Dispatching

The same staff that performs reservations and scheduling also performs dispatching, especially with only two staff available per shift (When we visited MITS, the call center staff was down one person). We were told by management that when there is a full complement of three staff, one person is designated as the dispatcher, with the other two teaming up on handling calls.

Dispatching is a strength at MITS. In observing dispatching, we noticed several instances where the MITS staff were on top of things and communicated well with the drivers. We did find it a bit unusual that the dispatching staff did not routinely consult the map in Trapeze (in response to a no-show request from a driver, for example) to determine whether the vehicle was in the right place, relying solely on the word of the driver. Dispatching staff was unaware of the missed trip disposition for a trip not completed and was unaware of the primary difference between a missed trips and a no-show – that being whether or not a vehicle arrives within the pick-up window or not, as well as the other four definitions of a missed trip.

Recommendations: (1) We recommend that JP Transit invest in a wall screen or designated monitor where real-time locations of vehicles can be viewed. (2) MITS call center staff should be re-trained as to the definitions of missed trips and how to designate that trip disposition in Trapeze. (3) Transdev should strive to hire a sufficient number of staff to enable one staff to as the designated dispatcher. **Immediate.** (4) Once Trapeze's scheduling parameters have been tuned and tested, implementing continuous dynamic optimization on the service day will relieve this person of proactive dispatching. **Short-term.**

5.6 Run Structure and Service Mix

The conclusion of the run structure analyses and scenario simulations in Task 6 was that there are opportunities to shift surplus hours to times where they are needed, and that the use of non-dedicated service providers would help augment the supply of service to help address capacity constraints. Both of these actions also have the potential to reduce costs.

The Run Structure Optimization simulation kept the same number of drivers (20) but increased the number of shifts by 8 (or 10%). This included adding 5 (4 hour+4 hour) split shifts to the current 15 current split shifts). Of the 20 drivers, 77% were assigned to 4 workday schedules and 23% to 5 workday schedules. The simulation reduced the total number of weekly service hours by 42 service hours (5%). The simulation also shows an 11% increase in productivity.

The use of non-dedicated service providers (NDSPs) to replace or augment dedicated service is a proven strategy in the industry. NDSPs can help improve the productivity of the dedicated fleet by serving trips that adversely impact productivity; this can include serving "overflow" trips during the peak that the MITS vans cannot handle, longer-distance single trips, will-call trips, re-emerging no-showed trips, and trips interrupted by breakdowns or accidents. The resulting increase in productivity reduces the operating cost per trip, and if the number of dedicated vehicle hours can be reduced, there is an associated reduction in cost. Most transit agencies of the size of MITS that use overflow providers outsource between 5% and 15% to NDSPs.

The Service Mix Optimization simulation suggests by outsourcing 4% of the trips to NDSPs, MIYTS could potentially reduce the number of dedicated vehicles by 3.

Recommendations: (1) Implement the changes to the run structure reflected in the Run Structure optimization simulation while other recommendations from the report are implemented and evaluate actual changes to productivity and on-time performance. Of note, the Monday run structure should be used for Monday holidays. **Immediate.** (2) Once performance has stabilized, gradually re-optimize shifts at least twice a year or whenever driver picks are done. **Short-term.** (3) Once performance has stabilized, MITS management should contact possible NDSP partners to discuss their willingness to provide "overflow" ADA paratransit trips (which would require that their drivers be trained to proficiency and drug and alcohol tested) and to determine whether or not they can provide wheelchair accessible service (not necessary but helpful). Based on the NDSP partners' available capacity, MITS should pilot an effort where 4% of the trips are outsourced to the NDSP partners, noting that this pilot would involve supplying the "ADA-paratransit certified drivers" with the same tablets used by MITS drivers. If none wish to participate as such, there are national TNCs such as UZURV that do have ADA paratransit certified drivers and NEMT carriers whose drivers are likely drug and alcohol tested and specially trained. We do not recommend replacing any dedicated vehicles with this strategy though, at least initially. Thus initially, the use of NDSPs should be viewed as a low-cost way to augment the supply of service, especially at key times. Based on the results from the pilot, MITS can then increase the percentage of trips outsourced, assuming willing partners with sufficient capacity, and possibly gradually reduce the number of dedicated vehicles as suggested by the simulation results. **Short-term to long-term.**

5.7 Safety Training

The industry standard for both transit and paratransit is 1 preventable accident per 100,000 total vehicle miles. MITS's preventable accident frequency ratio for 2021 was 1.5 per 100,000 total vehicle miles.

Recommendations: Steps should be taken by the JP Transit safety trainers to analyze the types of preventable accidents, trace the accidents to their root cause, and revise the driver training curriculum to address the root causes. **Immediate.**

5.8 Compliance Monitoring

Per FTA guidelines, an ADA paratransit service may be capacity constrained if it exhibits a *pattern* of denials, late trips, missed trips, and excessively long trips. If such patterns can be traced to capacity constraints, the service is in violation of ADA guidelines. There is also a fifth service quality/capacity metric, telephone access, which is typically measured in average and maximum hold times. If there is a pattern of access issues (by ADA paratransit customers), this too is considered by the FTA to be a capacity constraint.

Not only do FTA reviewers look for such patterns, but they also determine whether a transit agency has in place processes to identify such patterns, regardless of whether the metrics show that an average threshold has been met or not. For example, while a transit agency might have achieved a 90% OTP, a pattern of late trips might be tied to trips from a certain area or at a certain time, indicating there are not enough resources in that area or time to handle demand. Similarly, while an agency might have a very low average hold time, a pattern of hold times on a certain day of the week and certain time might point to not enough reservation agents at that time to handle the number of calls, another example of a capacity constraint in the eyes of the FTA.

Recommendation: MITS should develop a process for periodically (once a quarter) analyzing whether or not patterns of these metrics exist and whether those patterns point to a capacity constraint. **Immediate.**

5.9 Complaint Management

Complaint management is the responsibility of Transdev. Generally, an operations contractor should not be responsible for complaint intake and management given the obvious conflicts of interest.

Recommendation: The complaint management function should be removed from Transdev's contract responsibilities and transferred to a Jefferson Parish employee or Solutient. **Immediate.**

5.10 Providing Options for ADA Paratransit Customers

It seems evident that the demand for MITS is outstripping the supply of service; otherwise, riders would not be asked to avoid high-demand times. Re-deploying dedicated vehicles and augmenting the fleet with non-dedicated service providers, as recommended above, will hopefully address the mismatch.

If these actions do not fully solve the problem, Jefferson Parish may need to increase Transdev's budget to augment the supply service, either by increasing the amount of dedicated service and/or increasing the amount on non-dedicated service providers (NDSPs).

In the case of the latter, there may not be many taxis willing to provide ADA certified drivers, i.e., drivers who are specially trained to proficiency and who are drug and alcohol tested, remembering that most taxi drivers are independent contractors and not employees of the taxi company. But there is way to divert ADA paratransit trips to such providers as well as to TNCs, such as Lyft and Uber who do have a presence in the area. This approach requires a rider opt-in program, where MITS riders (who wish to) would sign an opt-in agreement which would give Jefferson Parish's agent (Transdev) a blanket permission to assign an ADA paratransit request to a TNC, taxi or other type of carrier under contract that does not used ADA-paratransit certified drivers. In effect, this means that Jefferson Parish would be able to convert, with the rider's permission, an ADA paratransit trip to a non-ADA paratransit trip. The rider fare would be the same as the MITS fare, with Transdev reimbursing the provider for the rest of trip cost. In addition, riders would maintain the option to "opt-out" for any particular trip. Through such a program, the Jefferson Parish would not only be serving these trips at a lower cost but would also improve the productivity of the dedicated MITS fleet by Transdev assigning to the TNCs the trips that would otherwise adversely impact the productivity of the dedicated fleet. Note too recommendations above in Section 10.8, where subcontractor costs are passed through to Jefferson Parish in the Transdev invoice.

Another way to lessen the demand for MITS is to provide its customers with an "alternative service." This is an on-demand service that the Jefferson Parish would offer to their ADA paratransit customers and that is provided through NDSPs such as taxis and TNCs. In such a program, riders request service directly from the service providers. Note there would need to be a WAV service option, sometimes accomplished through subcontracts and sometimes through additional WAV operators, in order to achieve service equivalence as mandated by the ADA. In the end, Jefferson Parish will reduce overall costs if the savings from the diverted trips are greater than the subsidies paid to the service providers for newly induced trips (that would otherwise not have been made on MITS). Moreover, such a service on-demand service is a great way to improve the mobility of the MITS riders. This is described in more detail in the Task 5

Technical Memorandum. A TCRP Report on Alternative Services, co-authored by the study team's project manager, is also soon to be published.

Recommendation: Jefferson Parish should prepare a feasibility for a pilot which combines an alternative service and an opt-in program. Such a combined program has been successfully piloted in Boston by the MBTA. As was done in Boston, we suggest first implementing an alternative service pilot, and then weaving in the opt-in program. **Short-Term.**

5.11 Contract Provisions

A copy of Amendment 6 of the Jefferson Parish-Transdev contract, adopted September 1, 2020, was provided to the study team. The following reflect recommendations for contract modifications

5.11.1 Complaint Frequency Ratio Standards; Complaint Management and Investigation

There are no penalties prescribed for not meeting these complaint response turn-around time, nor were there any prescribed periods for which penalties over and above the prescribed standard of 10 complaints per 100,000 trips are calculated. While it may be assumed that this is tracked per month, with penalties assessed on a monthly basis, this is not specified. The other shortcoming of this provision is that it would appear to apply to all services (fixed route and paratransit). In our industry, complaint frequency rates are very different for fixed route and paratransit services, i.e., complaints tend to be more frequent on paratransit services. The complaint frequency ratio (CFR) for ADA paratransit services is generally measured by the number of complaints per 10,000 passenger trips. A commonly used CFR score for ADA paratransit is: Excellent (under 10); Good (10-19); Acceptable (20-29) and Poor (30 and above). Having different CFRs for fixed route vs. paratransit is a common practice and does not conflate the two.

Recommendation: (1) Jefferson Parish should establish a new threshold for CFR, where CFR's under 10 earn the contractor an incentive bonus and CFR's over 30 trigger a penalty/liquidated damage, and where the CFR is calculated over a specified time (e.g., monthly or quarterly). (2) While the intake and management of complaints should be removed from Transdev (see Section 1.0 recommendations), this does not absolve Transdev from contractual obligations to investigate and respond to Jefferson Parish (or Solutient) in a timely manner. We recommend a standard turnaround time of 7 calendar days be added to the contract. **Immediate.**

5.11.2 Call-Taking Standards

Section 9 of the contract establishes an average call hold-time standard of no more than 2 minutes and a penalty of $100 per day per standard for days when a standard is not attained. The 2 minute standard for a not-to exceed average hold time is a fairly commonplace standard; however, it does not bring to light patterns of call center capacity constraints as discussed earlier in this report. In addition, no maximum hold times are specified.

Recommendation: (1) Jefferson Parish should modify the two minute standard and associated penalty to apply to any hour in the day. With this modification, Transdev will staff the call center in a way will thwart patterns of access issues. (2) Jefferson Parish should also establish an additional standard, that for longest hold time, which is a standard telephone MIS metric. We suggest that the longest hold time for any given hour be set at 5 minutes, with a similar $100 penalty assessed for each hour where there is a longer hold time. (3) We recommend that Transdev provide Solutient with all daily (hour by hour) telephone reports and that Solutient be given the responsibility for identifying patterns of access issues, based on the stated standards. **Immediate.**

5.11.3 On-Time Performance Standard and Penalties

Section 11 of the contract includes a new provision on-time performance standard for MITS of not less than 88%. Most ADA paratransit services have OTP standards of 90% or above. Section 11 also adds a penalty of $1,000 if the on-time standard is not achieved in a given month.

Recommendation: (1) Jefferson Parish should increase the standard from 88% to 90%, again noting a previous recommendation regarding the expansion of on-time performance calculation to include the drop off time for trips request by drop-off or appointment times. (2) To address patterns of late trips, we recommend changing the penalty to $10 per late trip and $100 per day if the on-time standard is not met. (3) We recommend that Transdev provide Solutient with raw trip data from Trapeze and that Solutient be given the responsibility for verifying Transdev's reported late trips and for identifying patterns of late trips, based on the stated standards. **Immediate.**

5.11.4 Maximum On-Board Travel Time Standard and Penalties.

Section 11 of the contract also specifies a standard for a not-to-exceed on-board travel time of 75 minutes, with a penalty of $50 for each event. The threshold seems reasonable given that the average OBT time ranges between 15.5 and 21.5 minutes depending on the day of the week. It is not evident though that this is being tracked – or tracked correctly, with penalties assessed.

Recommendation: (1) We recommend that Transdev be required to provide raw trip data to Solutient and that Solutient be given the responsibility to check for trips exceeding 75 minutes in duration. (2) We also recommend that Solutient be given the responsibility for identifying patterns of excessively long trips as compared to similar trips made on fixed route transit. **Immediate.**

5.11.5 Missed Trip Standard and Penalties

Section 11 of the contract also establishes a penalty of $200 for each missed trip but does not define what a missed trip is. A missed trip is an event where (1) the vehicle never arrives; (2) the vehicle arrives early and departs before the pick-up window begins; (3) the vehicle arrives on-time or late but departs before the 5-minute wait time is over; (4) a driver fails to carry out specific instructions included with the reservation (e.g., a specific building entrance, door-to-door assistance, honk on arrival, etc.), which results in the rider missing their ride; or (5) the vehicle arrives after the pick-up window and the customer does not appear or cancels-at-door. Missed trips are the fault of the service delivery operator, and not the rider. Missed trips are not no-shows and need to be tracked separately as they are one of five metrics that point to the possibility of a capacity constraint, which is a compliance issue. When MITS staff was queried about why there were so few missed trips (only 3 in four years), it was clear that the staff did not have a grasp of all of these definitions. At the same time, missed trips are not always avoidable, a common standard is 0.5%.

Recommendation: (1) We recommend that a contractual standard of no more that 0.5% missed trips be established and that the $200 penalty apply to each missed trip over that standard. (2) We recommend that Transdev be required to provide raw trips data to Solutient, and that Solutient be given the responsibility for identifying missed trips that have been mislabeled. We also recommend the addition of a $200 penalty be assessed to Transdev for each missed trips that has been mislabeled. (3) We also recommend that Solutient be given the responsibility for identifying patterns of missed trips. **Immediate.**

5.11.6 Denials

MITS staff recorded 1639 denials in 2018 and 35 denials in 2021. Some of this reduction may possibly be attributed to more capacity; from 2018 to 2021, there was a 35% drop in ridership, but only a 22% reduction in revenue service hours. We also surmise that denials are down because riders are being directed to not request trips at high demand times. There is also a possibility that they are not be tracked correctly. For example, a trip request that is booked for a time beyond the one hour trip negotiation window is still a denial, even though it is served. Denials happen with ADA paratransit; A common not to exceed standard for denials is 0.1%. However, *patterns* of denials are not permitted under the ADA, as they are yet another indicator of capacity constraints.

Recommendation: (1) We recommend that Jefferson Parish add to the contract a not to exceed standard for denials of 0.1%, and $50 per denial penalty for each denial that exceeds this threshold. (2) We also recommend that Transdev provide Solutient with telephone recording of trips being booked, with a $200 penalty for each denial that is not recorded as such. (3) We also recommend that Solutient be given the responsibility for identifying patterns of denials. **Immediate.**

5.11.7 Productivity Standard and Penalty

Most paratransit contracts that are paid solely or primarily based on an RVH rate have performance targets – and incentives and/or penalties/liquidated damages -- tied to productivity. Along with on-time performance standard, the productivity standard gives the contractor and idea of the "sweet spot" balance of service quality and service/cost efficiency desired by Jefferson Parish. While the Amendment 6 of the contract does provide for an OTP standard, as discussed above in Section 10.3, we did not see a counterpart standard for productivity, although we were told in an interview that a standard of 1.8 is in place as a productivity standard.

Recommendation: (1) If it is not already in the contract, we recommend that Jefferson Parish add to the contract a productivity standard of 1.8 passenger trips per revenue vehicle hour. (2) We also recommend an associated penalty of $1,000 for each month that productivity dips below 1.8, and a $1,000 incentive bonus for each month where productivity exceeds 2.0 trips per month. **Immediate.** (3) Based on experience and changes to policies that impact productivity, Jefferson Parish should add a provision that it has the right to change these thresholds with suitable advance notice to Transdev.

5.11.8 Subcontractor Rates.

Section 14 of the contract provides for subcontractor rates per revenue vehicle hour, implying that what is being purchased is not non-dedicated service but dedicated service, with the taxi subcontractor operating a dedicated run onto which trips are assigned. If it also covers non-dedicated service, note that revenue vehicle hours for non-dedicated service typically covers live passenger time. Most transit agencies or prime contractors such as Transdev that use taxi contractors utilize taxis and other NDSPs on a non-dedicated basis, with payment based on the metered (or a negotiated distance-based) rate, or a

per trip rate where trips assigned to the taxi are relatively homogenous in character. This alleviates not paying for service during slack time. It also provides for utilizing taxis when they are most needed, i.e., during the peak, or replacing unproductive runs in low-demand areas or at low-demand times. While taxi contractors may sometime require a minimum number of trips per day, and based on interviews with Transdev staff, this appears to be the case, such a requirements should not be interpreted as a call for dedicated service..

Recommendation: (1) We recommend that the cost to Transdev for non-dedicated service provision be based on established meter rates and that the cost invoiced by the taxi company to Transdev be passed through to Jefferson Parish, also allowing for a modest processing fee. (2) We also recommend that when Transdev outsources a trips to taxi company, it does so by establishing the cost from serving that trip, which Transdev (using Trapeze) can pre-calculate based on direct travel distance and the taxi company's rates. (3) The passed-though costs from the taxi company may also include no-show fees as negotiated between Transdev and each taxi company.

APPENDIX A: PROJECT ADVISORY COMMITTEE

Name	Title	Organization
Tatar, Adam (Chair)	Brownsfield Coordinator	New Orleans Regional Planning Commission
Ainsworth, Jamie	Contract Program Manager	Louisiana Depratment of Transportation and Developmer
Barrios, Ninette	Director of Transportation	Jefferson Parish
Bryant, Laura	NA	New Orleans Mayor's Office of Transportation
Buckley, Melissa	Sr. Director of Operations	Arc of Greater New Orleans
Green, David	Staff	Lighthouse Louisiana
Hammond, Alisha	Assistant Director	New Orleans Resources for Indpendent Living (NORIL)
Jackson, Courtney	Executive Director	RIDE New Orleans
Johnson, Billie	Director of Mobility & Alternative Modes	New Orleans Regional Transit Authority
Kennon, Robin	MITS customer	
Killebrew, Rob (replaced by Jones, Gary)	Transdev General Manager	JP Transit / Transdev
Raymond, Mark	Director / LIFT customer	New Orleans RTA Board of Drirectors
Rocca,Tory	Director of Public Policy and Community Engagement	Disability Rights Louisiana