

APPENDIX B

Demand-Response Interviews - May 2016

SUMMARY OF DEMAND-RESPONSE INTERVIEWS

General

Focus of study – three services:

- Lawrence Transit’s T Lift (ADA Paratransit, door-to door)
- Lawrence Transit’s Night Line (General Public, curb-to-curb for gp, door-to-door for ADA riders))
- KU’s JayLift (KU Students and Employees, curb-to-curb)

All three services are operated by MV Transportation (“MV”) under a joint turnkey contract.

Staff, Vehicles, and Runs

Call Center Staff

MV staffs a call center (1 manager, 2 reservationists, 4 scheduler/dispatchers); they use Trapeze for T Lift and Night Line, but use Google for JayLift because of the different scheduling parameters.

Drivers

MV has 24 drivers (22 full-time and 2 part-time) for T Lift and Night Line; and 3 drivers (2 full-time and 1 part-time) for JayLift (number of JayLift drivers drops to 2 – 1 full-time and 1 part-time – in the summer).

Road Supervisors

There are 5 road supervisors who are dedicated to both fixed-route and paratransit.

Fleet and Runs

Fleet

MV uses a fleet of 24 accessible vehicles (23 Ford E450’s and 1 Ford E350). 22 are used for T Lift and Night Line; 2 are used for JayLift. None of the paratransit vehicles are equipped with MDT/AVL equipment or tablets. They are equipped with two-way radios.

Runs

Number of runs: 14 dedicated to T Lift; 4 dedicated to Night Line; 2 straddle T Lift and Night Line (but are often grouped into T Lift for some reports); 3 dedicated to JayLift during the school year; 2 during the summer.

Service Area, Days and Hours, and Fares

Service Areas

- Anywhere within city limits for T Lift and Night Line
- JayLift – travel limited to campus and off-campus housing

Service Days and Times

- T Lift and Night Line are complementary; no service at all on Sunday
 - T Lift: Mon-Sat 6 AM to 8 PM
 - Night Line: Mon-Fri 8 PM to 6 AM + Sat (8 PM to 12 AM) + Mon (12 to 6 AM)
- JayLift: Mon-Thu 6:30 AM to 10:30 PM
Fri 6:30 AM to 7:00 PM

Fares

- T Lift and Night Line: \$2.00; T Lift only: \$20 10-ride punch ticket or a \$68 monthly pass
- JayLift: free, although students contribute via student fees

Reservations and Scheduling

Reservation Hours and Advance Reservation Policy

Reservations hours are Monday – Saturday, 8:00 AM to 5:00 PM noting that customers can always leave a request after hours and on Sunday. Advance reservations are taken up to 5 days for T Lift and Night Line and up to 7 days for JayLift.

Same-Day Reservations

Same-day reservations are accepted but on a space available basis only (all three services).

Real-time Scheduling vs. Batch Scheduling

Real-time scheduling is done on Trapeze (for T Lift and Night Line) for two reasons: (1) to give riders their confirmed scheduled pick-up time; and (2) for trip time negotiations (if no solutions present themselves). Reservationists suggest a pick-up time 45 minutes away from requested pick-up times. Very few trips (2-3 percent of trips) are requested by appointment/drop-off time; we assume that most folks take the 45-minute suggestion, and the request “coverts” to a requested pick-up, noting also that appointment times are noted. Once a scheduled pick-up time has been confirmed with the caller, they are given a 30-minute pick-up window (+/- 15 minutes) based on the confirmed pick-up time. It is the riders understanding to be ready during this pick-up window, and that arrivals after the pick-up are considered to be late trips.

The daily scheduling process for T Lift first involves unscheduling all demand trips, and scheduling them one at a time using single insertions, building up each run chronologically. Batch scheduling is barely used. The heavy-lifting typically starts about 11:00 AM and concludes around 2:00 PM, noting that the reservations period closes at 5:00 PM and trip requests for next day service are accepted through then. Most trip requests for Monday are placed on Saturday or before but some are left on via voice mail on Sundays. These are addressed by the schedulers and dispatchers first thing on Monday morning.

For JayLift, requests are manually booked and immediately scheduled onto Google during the call. There are some differences of opinion among the staff as to the length of the pick-up window and what constitutes a late trip – some said there were no pick-up windows and no late trip definition, others said that it was 0/+5 and that arrivals more than 5 minutes after the confirmed trip pick-up time are late.

Subscription Trip Scheduling

In the case of T Lift and Night Line, requests for subscription trips are taken and forwarded to the Dispatch Manager for subsequent scheduling. This can take up to a month to process; in the interim, those customers must request random trips. Subscription trip requests on JayLift are scheduled as soon as possible.

Street Routing and Scheduling Parameters in Trapeze's PASS

As noted above, very little actual scheduling is accomplished through PASS's batch scheduling, while single insert suggestions are used to narrow down possibilities but schedulers ultimately rely equally on manual insertions. When interviewed, the schedulers trusted their own sense of scheduling more than PASS, and felt they could create better (more realistic and productive) schedules within the same amount of time than it would take to undo and fix the batch scheduling solutions. In the end, the schedulers are equally uncomfortable with the trip to-run assignments and travel times suggested by PASS.

One obvious shortcoming is the underlying map. Lawrence Transit's map and street network is also in need of updating. A related switch in PASS to street routing as the basis for calculating how much time is required to move from one location to another should produce more accurate scheduling than the triangulation method currently in use. Greater accuracy increases the opportunity to build better schedules with less manual effort. Not only will PASS be able to make better routing decisions on its own, but it may be possible to schedule slightly more aggressively with respect to estimated travel speeds when these speeds can be refined down to types of streets, neighborhoods, and even specific street segments – all by user-defined time periods throughout the day.

Trapeze's PASS Version 12, the software that is used to support Lawrence Transit's T Lift and Night Line services, provides parameters that can separately be applied to batch scheduling and single insertions, respectively. In Lawrence Transit's PASS system, the DEFAULT parameter set and costing weights are not used; rather, a customized set of parameters (called "T Lift") were created in July of 2002, and have remained unchanged since then. While some of the customized T Lift scheduling parameters are not that much different from the DEFAULT settings, some of the variables and all but one of the slide bars on the costing weight screen are very different. See figures on the following page.

These user-specified parameters instruct PASS on how to schedule, noting that PASS provides an opportunity to use different sets of parameters that apply to batch scheduling and to scheduling a single trip, respectively. It is our understanding that the T Lift set of parameters are used for both single insertions and batch scheduling. MV's manager reported that when PASS was implemented, Trapeze's installer/trainer spent much time with MV's manager in setting these parameters; however, the MV manager does not remember ever testing them on a test data base and fine-tuning them based on the results. This is an exercise that often separates the successful use of PASS from systems, like Lawrence Transit, that do not rely on batch scheduling.

There are likely other scheduling parameters that may also need to be revisited. For example, we suspect that the current "Free Pullouts" setting may be counter-productive in that it encourages vehicles that are already committed to service (runs to which trips have already been assigned) to be "rubber-banded" all around the service area to try to avoid using vehicles. Such a setting should be set close to 100 percent. Similarly, lowering OOW (out-of-window) Extra to half its current value might help constrain PASS from sending vehicles off in tangential fashion.

DEFAULT Setting for Costing Weights

The 'Costing Weights' dialog box is shown with the following settings:

- Variables:
 - 1 Second = 2.68 meters
 - 1 \$ = 1000 meters
 - Free OBT fact: 1.5
 - Free Pullouts: 66 %
 - OOw Extra: 1.24 dist.
 - DH Threshold: 15 time
- Scaling:
 - Para: 100 %
 - FX: 100 %
 - Flex: 100 %
 - Taxi: 100 %
 - Bulk: 100 %
- Other variables (all at default positions):
 - Min Distance: [Slider]
 - Min Run Time: [Slider]
 - Min OOw: [Slider]
 - Min TOOw: [Slider]
 - Min OBT: [Slider]
 - Max Same Geo: [Slider]
 - Min Backtrack: [Slider]
 - Min Pullout: [Slider]
 - Min Walking: [Slider]
 - Min Transfers: [Slider]
 - Min Violations: [Slider]
 - Min Req Dev: [Slider]
 - Load Balancing Threshold: [Slider]
 - Min Deadhead: [Slider]
 - Min Provider Cost: [Slider]
 - Min Taxi Garage Dist: [Slider]
 - Min Garage Pullout Slack: [Slider]
 - Min Garage Pullin Slack: [Slider]
 - Max Run Time Flexibility: [Slider]
 - Run Priority: [Slider]

Buttons: Use Defaults, Cancel, OK

T Lift Setting for Costing Weights

The 'Costing Weights' dialog box is shown with the following settings:

- Variables:
 - 1 Second = 2.68 meters
 - 1 \$ = 1000 meters
 - Free OBT fact: 1.5
 - Free Pullouts: 100 %
 - OOw Extra: 1.00 dist.
 - DH Threshold: 10 time
- Scaling:
 - Para: 100 %
 - FX: 100 %
 - Flex: 100 %
 - Taxi: 100 %
 - Bulk: 100 %
- Other variables (all at default positions):
 - Min Distance: [Slider]
 - Min Run Time: [Slider]
 - Min OOw: [Slider]
 - Min TOOw: [Slider]
 - Min OBT: [Slider]
 - Max Same Geo: [Slider]
 - Min Backtrack: [Slider]
 - Min Pullout: [Slider]
 - Min Walking: [Slider]
 - Min Transfers: [Slider]
 - Min Violations: [Slider]
 - Min Req Dev: [Slider]
 - Load Balancing Threshold: [Slider]
 - Min Deadhead: [Slider]
 - Min Provider Cost: [Slider]
 - Min Taxi Garage Dist: [Slider]
 - Min Garage Pullout Slack: [Slider]
 - Min Garage Pullin Slack: [Slider]
 - Max Run Time Flexibility: [Slider]
 - Run Priority: [Slider]

Buttons: Use Defaults, Cancel, OK

In addition, there are some unused features of PASS that should also contribute to the goal of more productive service. For example:

- **Schedule Agent:** MV is not taking advantage of PASS's capability to automate the scheduling of subscription trips. Eventually, once changes are made that result in a much higher level of satisfaction with Trapeze's scheduling solutions, MV's schedulers can more efficiently use Schedule Agent for scheduling subscription trips.
- **Waitlist:** PASS includes a feature that helps reservation agents when no solution is found. Using Waitlist will show the reservation agent how many trips already exist in the times around the requested time, and will make it easier for the reservation agent to quote the caller an alternate time when trying to place the trip.

Dispatching and Handling Same-Day Issues

Dispatching

Observations of the dispatchers showed a propensity to be proactive – looking ahead to solving problems before they manifest themselves as real-time problems. For example, if a vehicle run is operating, dispatchers will not hesitate to move an upcoming trip on that run to another run (with some slack) to put the first run back on schedule.

No-Show Process

The no-show process in “by the book.” Upon arrival within the pick-up window, driver have a 5-minute wait time before asking the dispatcher to be released. In the case of T Lift customers and ADA paratransit customers on Night Line, drivers are instructed to provide door-to-door service and so will ring the doorbell or knock on the outside door before calling in a no-show to the dispatcher. The process does differ from most other ADA paratransit services in that dispatchers from other services will almost always try to reach the customer in question by telephone to inform them that their ride is waiting. While not a requirement, this is not done for any of the three services.

Handling “Where’s My Ride?” Calls

Where’s my ride? calls are handled by the reservation agents who attempt to respond to the caller if the call is placed after the end of the pick-up window. This typically involves checking the dispatch window, with time points noted by the dispatcher. The reservationist may also transfer the caller to a dispatcher if radio contact with the driver is necessary. If customer calls are placed prematurely, the reservationist politely tells the caller to call back at the end of the pick-up window if the vehicle has still not arrived.

Service and Cost Performance

The tables and charts below summarize the service and cost performance for demand-response services in Lawrence, primarily T Lift and Night Line. More detailed statistics can also be found in the “master” table at the end of the section.

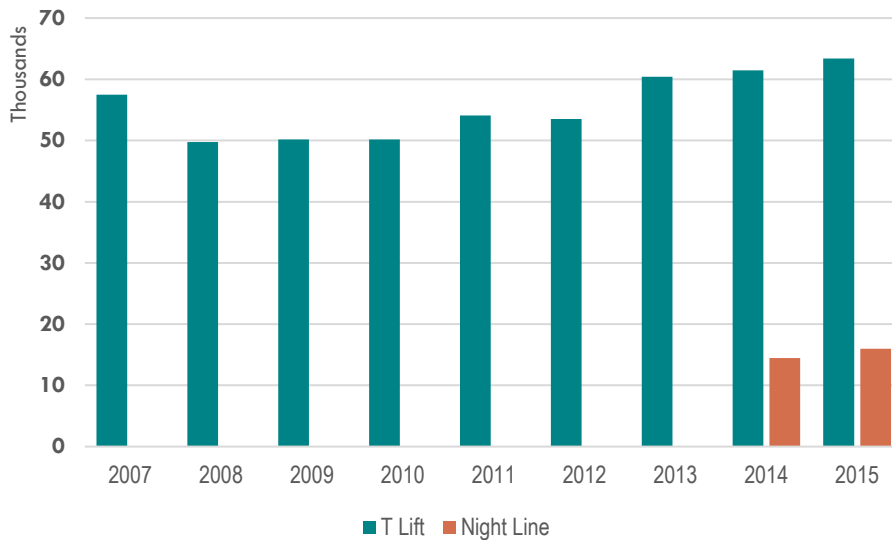
T Lift Service and Cost Statistics (2007-2015)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ridership	57,497	49,733	50,169	50,164	54,065	53,630	60,418	61,444	63,406
Revenue Vehicle Hours	23,876	22,544	22,445	23,044	24,567	24,915	29,391	26,933	28,396
Revenue Vehicle Miles	280,038	253,586	250,435	248,119	262,233	264,535	314,920	292,791	303,765
Cost per Trip	\$20.97	\$21.30	\$22.15	\$22.75	\$22.22	\$28.24	\$32.22	\$27.52	\$25.44
Cost per Revenue Hour	\$50.49	\$46.99	\$49.50	\$49.53	\$48.90	\$60.79	\$66.23	\$62.77	\$56.81
Ridership per Revenue Hour	2.41	2.21	2.24	2.18	2.20	2.15	2.06	2.28	2.23

Night Line Service and Cost Statistics

	2014	2015
Ridership	14,462	15,958
Revenue Vehicle Hours	9,041	9,023
Revenue Vehicle Miles	97,968	102,057
Cost per Trip	\$40.19	\$32.61
Cost per Revenue Hour	\$64.28	\$57.67
Ridership per Revenue Hour	1.60	1.77

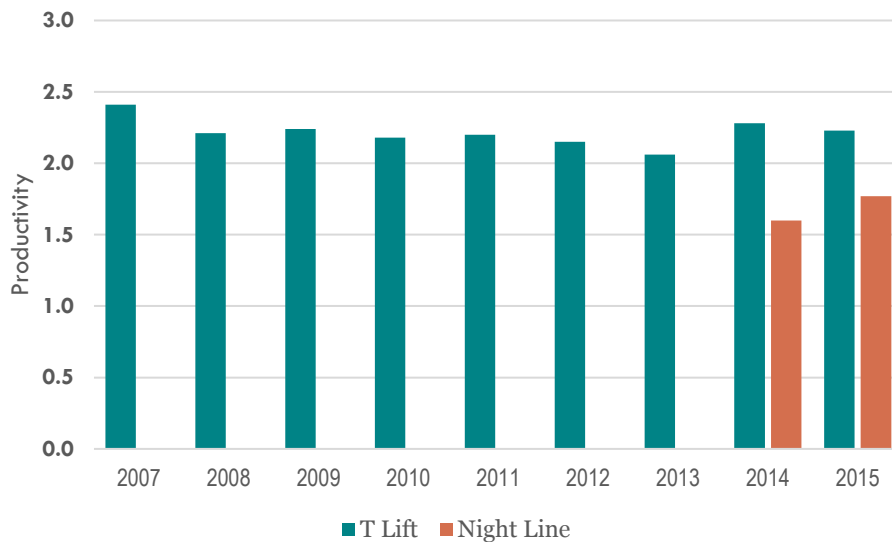
Ridership Trend Analysis (for T Lift and Night Line only)



The 2015 ridership on T Lift totaled 63,406 trips, up from 61,444 trips in 2014, a 3.2 percent increase. The most dramatic increase during the period from 2007 to 2015 was between 2012 and 2013 when ridership increased from 53,630 to 60,418, a 12.7 percent increase. But over the long run, ridership on T Lift has remained fairly stable, increasing only 10.3 percent over the period from 2007 to 2015, or an average of 1.3 percent per year.

Night Line ridership has only been captured for 20014 and 2015, increasing from 14,462 to 15,958 trips, an increase of 10.3 percent.

Revenue Service Hours and Productivity



T Lift’s revenue vehicle hours (RVHs) increased 5.4 percent from 26,933 in 2014 to 28,396 in 2015, during which ridership increased by 3.2 percent. Consequently, ridership per revenue hour

(productivity) decreased from 2.28 to 2.23 trips per RVH. Over the period from 2007 through 2015, productivity has ranged between 2.06 and 2.41.

From 2014 to 2015, Night Line's RVHs have remained fairly level, and with its ridership increasing by 10.3 percent, it's no surprise that Night Line's productivity also increased by about 10.6 percent (from 1.60 to 1.77 trips per hour).

On-Time Performance and Service Performance Tracking

On-time performance (OTP) is very good – for the calendar year 2015, OTP performance was reported as 93.4 percent for T Lift, and 96.3 percent for Night Line from Trapeze's On-Time Performance Report. Since JayLift trips are documented in Google and not in Trapeze, there is no automated tracking of on-time performance for JayLift. Additional observations:

- a. The vehicles for all three services are not equipped with MDT/AVL equipment and so the drivers have no way to automatically time-stamp and location-stamp each arrival and departure. Instead, drivers record time and mileage information by hand on the driver manifests. The driver manifests for T Lift and Night Line are generated from Trapeze. The manifests for JayLift are generated through Google.
- b. Actual pick-up and drop-off times for T Lift and Night Line are manually entered into Trapeze by schedulers/dispatchers after the manifests are turned in. However, when there is only one time recorded per stop by a driver, there is some inconsistency among the drivers about which time point is recorded and some inconsistency among the dispatchers as to which field (arrival vs. departure) the time point is entered. Moreover, even when both actual arrival and departure times are recorded at a given stop (the driver manifest has two time points for pick-ups and one time point for drop-offs), there is still some inconsistency among the drivers as to the time point that is recorded on the manifest. (See also "d." below)
- c. Prior to our arrival, OTP had been calculated by a review of driver manifests, even though driver-recorded times were being entered into Trapeze. While on-site, we prompted staff to generate an on-time performance report (for the first time) from Trapeze (separate reports for T Lift and for Night Line).
- d. The OTP, as reported by Trapeze, may actually be a bit higher for T Lift and Night Line because the way in which drivers record arrival (and departure) times is inconsistent as mentioned above. For example, some drivers do not record the actual arrival time and instead record the passenger alighting time as the arrival time, while some drivers just record one time as mentioned above, and that could be the arrival time, the alighting time, or the departure time.
- e. The on-time and late definitions seem to be only based on whether or not the van arrival time is within the +/- 15 minute pick-up window, noting that in the statistics above we also include early arrivals as on-time. For T Lift and Night Line, late trips are defined as completed trips where the van arrival was beyond the pick-up window. However, there is no formal definition in the contract nor the customer information about a late trip also including arrivals at the destination beyond the specified appointment time or the requested drop-off time. At the same time, according to the above OTP report, 1,693 (or 2.7 percent) of the 62,677 completed trips on T Lift were requested based on an appointment time or requested drop-off time, and despite the lack of a formal definition, it does appear that Trapeze is tracking the OTP of such trips (at 98.1 percent) vs. the OTP for trips requested by pick-up (at 93.3 percent). So,

LAWRENCE TRANSIT COA | APPENDIX B
Lawrence-Douglas County MPO

it would appear that the additional definition of a late trip has been entered into Trapeze and is used to track OTP.

- f. There are also some issues with the way OTP for JayLift is measured. MV management stated that the on-time pick-up window is 0/+5 minutes; MV's call center staff said there was no definition of a late trip; and KU staff indicated that the pick-up window might be the same as the T Lift pick-up window for trips origins beyond campus. Moreover, while arrival times, for the most part, seem to be accurately documented on trip manifests by drivers, they are not entered into Trapeze as mentioned above.

Revising the driver manifests for all three services to include an arrival and departure time at all stops, whether pick-ups or drop-offs, will help resolve some of these issues. Drivers need only fill-in the departure time from the yard at the beginning of the run and arrival time back at the yard at the end of the run. All times should also be entered into Trapeze. Also note that since JayLift is manually scheduled in a Google spreadsheet now, MV could also use Trapeze to manually schedule these runs, shielding them from any batch scheduling, and record actual pick-up and drop-off times. This way, MV would be able to run an OTP report for JayLift and use a narrower time parameter to reflect the differences in pick-up window between the services.

Service Element	T Lift	Night Line	Jay Lift
Responsible Agency	Lawrence Transit		KU
Operator	MV Transportation		
Service Eligibility	ADA Paratransit	General Public	KU Students/Employees with Permanent or Temporary Disability
Service Area	City Limits		Origin and/or Destination on Campus
Service Days and Times	Mon-Sat; 6am-8pm	Mon-Fri; 8pm-6am Sat; 8pm-12 midnight Mon; 12 midnight-6am	Mon-Thu; 6:30am-10:30pm Fri; 6:30am-7:00pm
Fare	\$2.00 10-ride punch ticket: \$20.00 Monthly pass \$68.00	\$2.00	Fare Free Students contribute a student fee Employees truly ride free of charge
Level of Driver Assistance	Door-to-Door	Curb-to-Curb (D-t-D for ADA riders)	Curb-to-Curb
Reservation/Scheduling Software	Trapeze		Google
Reservation Hours	Mon-Sat; 8am-5pm After Hours / Sun: voicemail		Mon-Sat; 8am-5pm After Hours / Sun: voicemail
Advance Reservations	Up to 5 days in advance Suggested P/U 45 min before D/O Appt time noted; but based on P/U		Up to 7 days in advance (informal) Suggested P/U 15-30 min before D/O Appt time noted; but based on P/U
Same-Day Reservations	Yes, on a space available basis only		Yes, on a space available basis only
Trip Negotiations	Only if no solution		Only if no solution
Pick Up Window	plus or minus 15 min from conf/neg P/U time		0 or plus 5 min from conf/neg P/U time
Scheduling	Mostly one trip at a time (very limited use of batch scheduling)		Mostly one trip at a time
Subscription Trip Scheduling	Minimum per week: 1 trip One month processing time Master Template Refinement: 2x/yr		Minimum per week: 1 trip Same day processing time Same day processing time
Vehicles, Runs, Staff, and Drivers	T Lift	Night Line	Jay Lift
Fleet Size (cutaways)	22 Ford E450's (2007-5, 2008-3, 2010-5, 2012-3, 2014-6)		2-1 Ford E350 (2010); 1 Ford E450 (2010)
Number of Runs	14 + 2 straddle into Night Line service	4 + 2 straddle into T-Life service	3 (school yr); 2 (summer)
Disp/Comm Manager & Master Templates	1		
Reservationists	2		
Scheduler/Dispatchers	4 (Interchangeable but 3 focus on T-lift and NightLine Service and 1 focuses on Jay Lift)		
Drivers	22 FT and 2 PT		2 FT + 1 PT (school yr); 1 FT + 1 PT (summer)
Road Supervisors	5 (for fixed route and para)		

LAWRENCE TRANSIT COA | APPENDIX B
Lawrence-Douglas County MPO

Ridership, Hours, and Miles (CY 2015)	T Lift	Night Line	Jay Lift	Total
Total Ridership	63,406	15,966	3,382	82,754
Revenue Vehicle Hours	28,395.59	9,035.20	2,855.21	40,286.00
Total Hours	31,963.30	9,035.20	3,190.54	44,189.04
Revenue Vehicle Miles	303,765	102,118	48,118	454,001
Total Miles	337,609	113,297	57,177	508,083
Productivity (Trips/RVH)	2.23	1.77	1.18	2.05
On-Time Performance Statistics (CY 2015)				
	T Lift	Night Line	Jay Lift	Total
Total Ridership*	62,677	14,611	-	77,288
Req by PU - Total Trips	60,984	14,575	-	75,559
Req by PU - On-Time	54,594	13,009	-	67,603
Req by PU - Early	2,312	1,023	-	3,335
Req by PU - Late	4,078	543	-	4,621
Req by APPT - Total	1,693	36	-	1,729
Req by APPT - On-Time	1,661	32	-	1,693
Req by APPT - Late	32	4	-	36
On-Time Percentages (includes early trips)	93.44%	96.26%	-	93.97%
Other Service Statistics				
	T Lift	Night Line		
Denials	629			
Advance Cancellations	10,411 (13.2%)			
Late Cancellations	901 (1.1%)			
Cancels-at-Door	523 (0.7%)			
No-Shows	2,440 (3.1%)			
Missed Trips	3 (0.0%)			
Preventable accidents/100,000 total miles	1			
Operating Cost (CY 2015)				
	T Lift	Night Line	Jay Lift	Total
Ridership	63,406	15,966	-	79,372
Revenue Hours	28,396	9,023	-	37,419
Expenses	\$1,613,204	\$520,389	-	\$2,133,593
Cost/Trip	\$25.44	\$32.61	-	\$26.88
Cost/RVH	\$56.81	\$57.67	-	\$57.02
*OPT performance report ridership differs from the ridership figure above because of the way companions and PCAs are used in the report; and because the OPT performance report is generated by run and two runs straddle T Lift and Night Line service.				

Capacity Constraint Data Analysis

The following table includes performance metrics that Lawrence Transit should track and analyze to better understand if there are patterns of T Lift service characteristics that may point to a capacity constraint. While it is a good idea to do this for its non-ADA services, this is required by the FTA for ADA paratransit services.

In particular, it is the responsibility of Lawrence Transit as the grant recipient to understand whether there is a pattern of late trips, trip denials, missed trips, excessively long trips, and hold times that could constitute a capacity-induced pattern of each. Patterns might focus on certain passengers, certain areas, or at certain times.

Metric	Definition	Standards and Industry Norms	Actual (2015) and Notes
On-time performance	For T Lift and Night Line: any occurrence where the vehicle arrives at the appointed location to provide a passenger within 15 minutes of the requested time. Early trips may be included in this definition if there is no driver coercion aimed at the rider to enter the vehicle before the beginning of the pick-up window.	0-15 min: 90% 0-20 min: 92% 0-30 min: 95%	T Lift: 92.85% Night Line: 95.83% JayLift: ??
Trip denials	A trip that cannot be accommodated because of inadequate system capacity. If a trip cannot be accommodated outside the 60+ window, it is to be considered a denial, whether or not the customers agrees to the alternative pick-up time or not. If one of the legs cannot be provided and customer doesn't want the trip, then it counts as two denials.	For T Lift, and ADA paratransit service) there should not be a pattern of denials. For Night Line and JayLift, denials are a function of limited capacity	Denials are currently not being recorded, nor analyzed to determine if there are any patterns.
Missed trips	Missed trips should be documented as instances when the vehicle fails to arrive to provide a scheduled trip, or when the vehicle arrives late (beyond the pick-up window, and the customer cannot be found or chooses to cancel at door. (Such an instance that occurs within the pick-up window should be documented as a no-show or cancel-at-door, if tracked separately. The Lawrence Transit definition of a missed trip is incorrect. Lawrence Transit has been defining missed trips as completed or uncompleted trips where the vehicle arrives 45 minutes after the confirmed pick-up time or never arrives.	Industry norm is to keep missed trips under 0.5% of the completed trips.	Some Lawrence Transit dispatchers are incorrectly documenting no-shows that occur after the pick-up Window as no-shows. These should be recorded as missed trips.

	Also noting that completed trips fit into only two categories: on-time and late, and that missed trips are uncompleted trips.		
Excessively long trips	<p>A trip outside of the comparable time to an identical trip on the fixed route system, within a reasonable threshold of time. FTA policy defines an excessively long trip as a trip time that exceeds the trip time on the fixed route system (at the time of the trip) plus 20 minutes (to account for walking and waiting time).</p> <p>Lawrence Transit has specified 45 minutes in Trapeze as a scheduling parameter meaning that Trapeze will not schedule a trip (in batch or single insert mode) if it violates this parameter. Also, forcing in a trip that violates this parameter will result in a flagged violation.</p>	The industry norm is to keep these under 0.5%. Check.	A summary report on excessively long trips is not provided by Trapeze. Nor is Lawrence Transit checking to see whether or not there is a pattern among the trips that do exceed this violation.

Other Considerations

- Does it make sense to carve out from JayLift trips with origins or destinations not on campus, and thereby transforming JayLift to an intercampus service focused on getting disabled students to and from class and on-campus activities?
 - Will it significantly improve productivity/efficiency? Probably not. As most of these off-campus trips are fairly short and come mainly at the beginning and end of runs, removal of such trips from JayLift will likely not have a significant impact on the productivity/efficiency of the JayLift service.
 - Will it address any equity issues? Yes. These off campus trips are mostly employee trips. While there are no fares per se for JayLift in general, disabled students in effect pay a fare for JayLift through their student fees. This is not true for the KU employees who utilize JayLift, however. They are truly getting free service. The question has been raised (by KU management) why this is and why shouldn't these individuals be served by T Lift instead for which they would have to pay a fare. We agree.
- Is there a less expensive way to provide Night Line service?
 - Based on the “master” table above, the cost per trip of providing Night Line service was about \$32.
 - An approach shifting some (condensed) Night Line to fixed-route or flex route that matches origins and destinations and/or a subsidy program involving both taxis and TNCs (to circumvent) Title VI issues might be a strategy to reduce the cost per trip, noting that implementing any late-night fixed-route would bring with it an obligation for ADA paratransit service (which now ends at 8:00 PM).